Road Star
XV16A/AS/AT
OWNER'S MANUAL
YAMAHA

⚠ WARNING

The engine exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

YAMAHA LIT-CALIF-65-01

Congratulations on your purchase of the Yamaha Road Star™/Road Star™ Silverado™. This model is the result of Yamaha's vast experience in the production of fine sporting, touring, and pacesetting racing machines. It represents the high degree of craftsmanship and reliability that have made Yamaha a leader in these fields.

This manual will give you an understanding of the operation, inspection, and basic maintenance of this motorcycle. If you have any questions concerning the operation or maintenance of your motorcycle, please consult a Yamaha dealer.

The design and manufacture of this Yamaha motorcycle fully comply with the emissions standards for clean air applicable at the date of manufacture. Yamaha has met these standards without reducing the performance or economy of operation of the motorcycle. To maintain these high standards, it is important that you and your Yamaha dealer pay close attention to the recommended maintenance schedules and operating instructions contained within this manual.

IMPORTANT MANUAL INFORMATION

Particularly important information is distinguished in this manual by the following notations:

⚠	**The Safety Alert Symbol means ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!**
⚠ WARNING	**Failure to follow WARNING instructions could result in severe injury or death to the motorcycle operator, a bystander or a person inspecting or repairing the motorcycle.**
CAUTION:	**A CAUTION indicates special precautions that must be taken to avoid damage to the motorcycle.**
NOTE:	A NOTE provides key information to make procedures easier or clearer.

NOTE:

- This manual should be considered a permanent part of this motorcycle and should remain with it even if the motorcycle is subsequently sold.
- Yamaha continually seeks advancements in product design and quality. Therefore, while this manual contains the most current product information available at the time of printing, there may be minor discrepancies between your motorcycle and this manual. If you have any questions concerning this manual, please consult your Yamaha dealer.

⚠ WARNING

PLEASE READ THIS MANUAL AND THE "YOU AND YOUR MOTORCYCLE: RIDING TIPS" BOOKLET CAREFULLY AND COMPLETELY BEFORE OPERATING THIS MOTORCYCLE. DO NOT ATTEMPT TO OPERATE THIS MOTORCYCLE UNTIL YOU HAVE ATTAINED ADEQUATE KNOWLEDGE OF ITS CONTROLS AND OPERATING FEATURES AND UNTIL YOU HAVE BEEN TRAINED IN SAFE AND PROPER RIDING TECHNIQUES. REGULAR INSPECTIONS AND CAREFUL MAINTENANCE, ALONG WITH GOOD RIDING SKILLS, WILL ENSURE THAT YOU SAFELY ENJOY THE CAPABILITIES AND THE RELIABILITY OF THIS MOTORCYCLE.

IMPORTANT MANUAL INFORMATION

AFFIX DEALER

LABEL HERE

XV16AP(C)/XV1600AS(C)/XV16ATP(C)
OWNER'S MANUAL
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⚠ SAFETY INFORMATION

MOTORCYCLES ARE SINGLE TRACK VEHICLES. THEIR SAFE USE AND OPERATION ARE DEPENDENT UPON THE USE OF PROPER RIDING TECHNIQUES AS WELL AS THE EXPERTISE OF THE OPERATOR. EVERY OPERATOR SHOULD KNOW THE FOLLOWING REQUIREMENTS BEFORE RIDING THIS MOTORCYCLE.

HE OR SHE SHOULD:

1. OBTAIN THOROUGH INSTRUCTIONS FROM A COMPETENT SOURCE ON ALL ASPECTS OF MOTORCYCLE OPERATION.
2. OBSERVE THE WARNINGS AND MAINTENANCE REQUIREMENTS IN THE OWNER'S MANUAL.
3. OBTAIN QUALIFIED TRAINING IN SAFE AND PROPER RIDING TECHNIQUES.
4. OBTAIN PROFESSIONAL TECHNICAL SERVICE AS INDICATED BY THE OWNER'S MANUAL AND/OR WHEN MADE NECESSARY BY MECHANICAL CONDITIONS.

Safe riding

1. Always make pre-operation checks. Careful checks may help prevent an accident.
2. This motorcycle is designed to carry the operator and a passenger.
3. The failure of motorists to detect and recognize motorcycles in traffic is the predominating cause of automobile/motorcycle accidents. Many accidents have been caused by an automobile driver who did not see the motorcycle. Making yourself conspicuous appears to be very effective in reducing the chance of this type of accident.

Therefore:

   a. Wear a brightly colored jacket.
   b. Use extra caution when approaching and passing through intersections, since intersections are the most likely places for motorcycle accidents to occur.
   c. Ride where other motorists can see you. Avoid riding in another motorist's blind spot.

4. Many motorcycle accidents involve inexperienced operators. In fact, many operators who have been involved in accidents do not even have a current motorcycle license.
   a. Make sure that you are qualified and that you only lend your motorcycle to other qualified operators.
   b. Know your skills and limits. Staying within your limits may help you to avoid an accident.
   c. We recommend that you practice riding your motorcycle where there is no traffic until you have become thoroughly familiar with the motorcycle and all of its controls.
5. Many motorcycle accidents have been caused by error of the motorcycle operator. A typical error made by the operator is veering wide on a turn due to EXCESSIVE SPEED or undercornering (insufficient lean angle for the speed).
   a. Always obey the speed limit and never travel faster than warranted by road and traffic conditions.
   b. Always signal before turning or changing lanes. Make sure that other motorists can see you.
6. The posture of the operator and passenger is important for proper control.
   a. The operator should keep both hands on the handlebar and both feet on the operator footrests during operation to maintain control of the motorcycle.
   b. The passenger should always hold onto the operator, seat strap, or grab bar, if equipped, with both hands and keep both feet on the passenger footrests.
   c. Never carry a passenger unless he or she can firmly place both feet on the passenger footrests.
7. Never ride under the influence of alcohol or other drugs.
8. This motorcycle is designed for on-road use only, therefore, it is not suitable for off-road use.

Protective apparel

The majority of fatalities from motorcycle accidents are the result of head injuries. The use of a safety helmet is the single most critical factor in the prevention or reduction of head injuries.

1. Always wear an approved helmet.
2. Wear a face shield or goggles. Wind in your unprotected eyes could contribute to an impairment of vision which could delay seeing a hazard.
3. The use of a jacket, heavy boots, trousers, gloves, etc., is effective in preventing or reducing abrasions or lacerations.
4. Never wear loose-fitting clothes, otherwise they could catch on the control levers, footrests, or wheels and cause injury or an accident.
5. Never touch the engine or exhaust system during or after operation. They become very hot and can cause burns. Always wear protective clothing that covers your legs, ankles, and feet.
6. Passengers should also observe the precautions mentioned above.

Modifications

Modifications made to this motorcycle not approved by Yamaha, or the removal of original equipment, may render the motorcycle unsafe for use and may cause severe personal injury. Modifications may also make your motorcycle illegal to use.

Loading and accessories

Adding accessories or cargo to your motorcycle can adversely affect stability and handling if the weight distribution of the motorcycle is changed. To avoid the possibility of an accident, use extreme caution when adding cargo or accessories to your motorcycle. Use extra care when riding a motorcycle that has added cargo or accessories. Here are some general guidelines to follow if loading cargo or adding accessories to your motorcycle:

Loading

The total weight of the operator, passenger, accessories and cargo must not exceed the maximum load limit of XV16A(C), XV16AS(C): 432 lb (196 kg) / XV16AT(C): 399 lb (181 kg). When loading within this weight limit, keep the following in mind:

1. Cargo and accessory weight should be kept as low and close to the motorcycle as possible. Make sure to distribute the weight as evenly as possible on both sides of the motorcycle to minimize imbalance or instability.
2. Shifting weights can create a sudden imbalance. Make sure that accessories and cargo are securely attached to the motorcycle before riding. Check accessory mounts and cargo restraints frequently.
3. Never attach any large or heavy items to the handlebar, front fork, or front fender. These items, including such cargo as sleeping bags, duffel bags, or tents, can create unstable handling or slow steering response.

Accessories

Genuine Yamaha accessories have been specifically designed for use on this motorcycle. Since Yamaha cannot test all other accessories that may be available, you must personally be responsible for the proper selection, installation and use of non-Yamaha accessories. Use extreme caution when selecting and installing any accessories.
Keep the following guidelines in mind, as well as those provided under “Loading” when mounting accessories.

1. Never install accessories or carry cargo that would impair the performance of your motorcycle. Carefully inspect the accessory before using it to make sure that it does not in any way reduce ground clearance or cornering clearance, limit suspension travel, steering travel or control operation, or obscure lights or reflectors.

a. Accessories fitted to the handlebar or the front fork area can create instability due to improper weight distribution or aerodynamic changes. If accessories are added to the handlebar or front fork area, they must be as lightweight as possible and should be kept to a minimum.
b. Bulky or large accessories may seriously affect the stability of the motorcycle due to aerodynamic effects. Wind may attempt to lift the motorcycle, or the motorcycle may become unstable in cross winds. These accessories may also cause instability when passing or being passed by large vehicles.
c. Certain accessories can displace the operator from his or her normal riding position. This improper position limits the freedom of movement of the operator and may limit control ability, therefore, such accessories are not recommended.

2. Use caution when adding electrical accessories. If electrical accessories exceed the capacity of the motorcycle's electrical system, an electric failure could result, which could cause a dangerous loss of lights or engine power.

Gasoline and exhaust gas

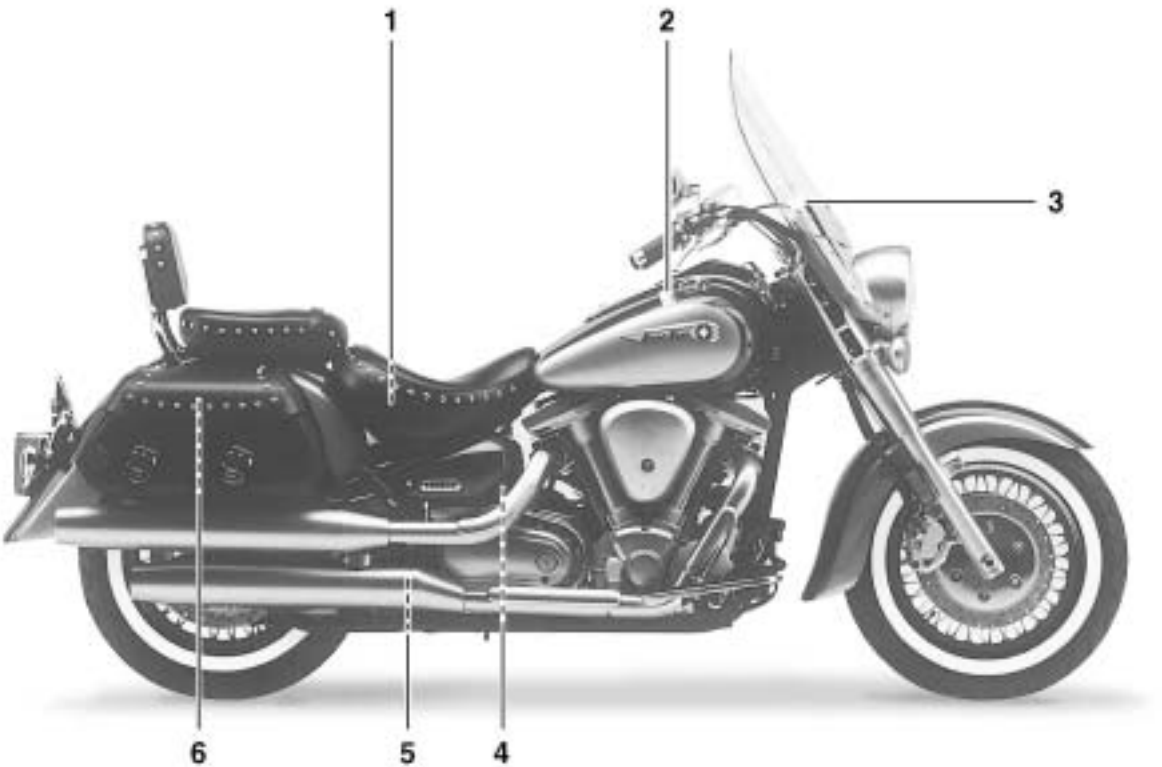
1. GASOLINE IS HIGHLY FLAMMABLE:
   a. Always turn the engine off when refueling.
   b. Take care not to spill any gasoline on the engine or exhaust system when refueling.
   c. Never refuel while smoking or in the vicinity of an open flame.
2. Never start the engine or let it run for any length of time in a closed area. The exhaust fumes are poisonous and may cause loss of consciousness and death within a short time. Always operate your motorcycle in an area that has adequate ventilation.
3. Always turn the engine off before leaving the motorcycle unattended and remove the key from the main switch. When parking the motorcycle, note the following:

a. The engine and exhaust system may be hot, therefore, park the motorcycle in a place where pedestrians or children are not likely to touch these hot areas.
b. Do not park the motorcycle on a slope or soft ground, otherwise it may fall over.
c. Do not park the motorcycle near a flammable source (e.g. a kerosene heater, or near an open flame), otherwise it could catch fire.

4. When transporting the motorcycle in another vehicle, make sure that it is kept upright and that the fuel cock is turned to “ON” or “RES” (for vacuum type) / “OFF” (for manual type). If it should lean over, gasoline may leak out of the carburetor or fuel tank.
5. If you should swallow any gasoline, inhale a lot of gasoline vapor, or allow gasoline to get into your eyes, see your doctor immediately. If any gasoline spills on your skin or clothing, immediately wash the affected area with soap and water and change your clothes.

Location of important labels

Please read the following important labels carefully before operating this motorcycle.



1

TIRE INFORMATION

Cold tire normal pressure should be set as follows.
● Up to 90 kg (198 lbs) load
FRONT : 250 kPa, (2.50 kgf/cm²), 36 psi
REAR : 250 kPa, (2.50 kgf/cm²), 36 psi
● 90 kg (198 lbs) ~ maximum load
FRONT : 250 kPa, (2.50 kgf/cm²), 36 psi
REAR : 280 kPa, (2.80 kgf/cm²), 41 psi

4NK 21668 A0

2

⚠ WARNING

- **BEFORE YOU OPERATE THIS VEHICLE, READ THE OWNER'S MANUAL AND ALL LABELS.**
- **ALWAYS WEAR AN APPROVED MOTORCYCLE HELMET,** eye protection, and protective clothing.

3MX 2118K A0

XV16AT(C)

3

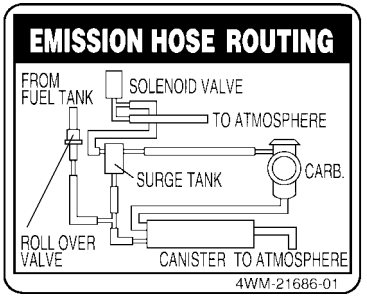
CAUTION

Cleaning with alkaline or acid cleaner, gasoline or solvent will damage windshield. Use neutral detergent.

YAMAHA 4NL-F835Y-00

California only

4



5

⚠ WARNING

This unit contains high pressure nitrogen gas.
Mishandling can cause explosion.
- Read owner's manual for instructions.
- Do not incinerate, puncture or open.

4AA-22259-80

XV16AT(C)

6

⚠ WARNING

Improper loading can adversely affect handling.
- Do not exceed maximum load limit: 11 lb (5 kg) each saddlebag.
- Distribute weight evenly from side to side.
- Read the Owner's manual for important loading and tire pressure information.
- Total weight of rider, passenger, accessories, and cargo must not exceed the motorcycle load capacity shown in the Owner's Manual.
- Never ride above 80 mph (120 km/h) with saddlebags because handling could be affected. This maximum speed may be reduced by such factors as improper loading, poor tire or overall motorcycle conditions, poor road surfaces, or adverse weather conditions.

YAMAHA USA-5GA73-98-00

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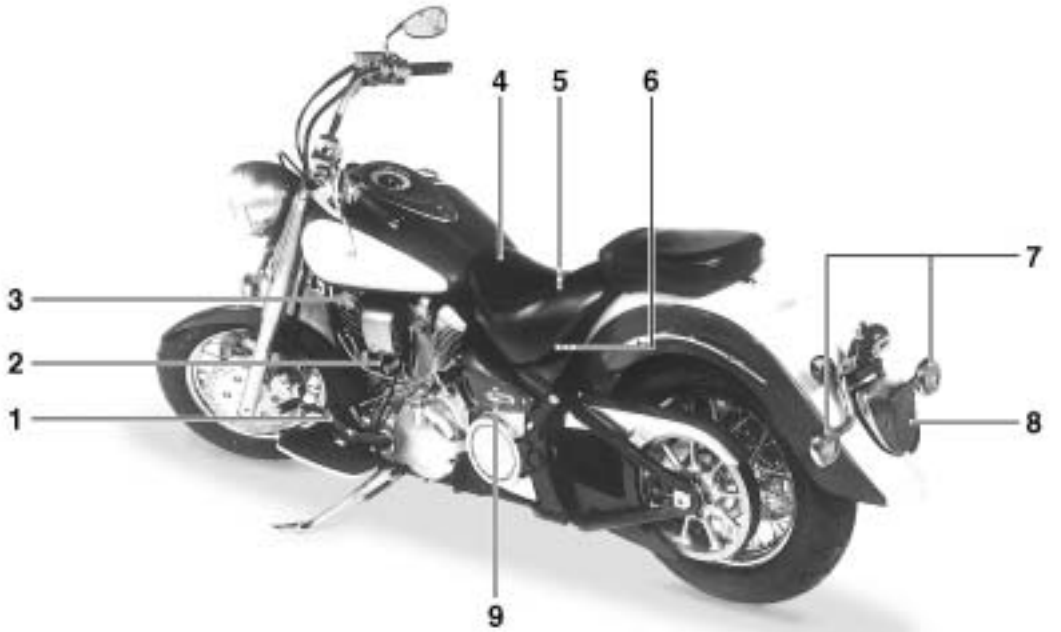
DESCRIPTION

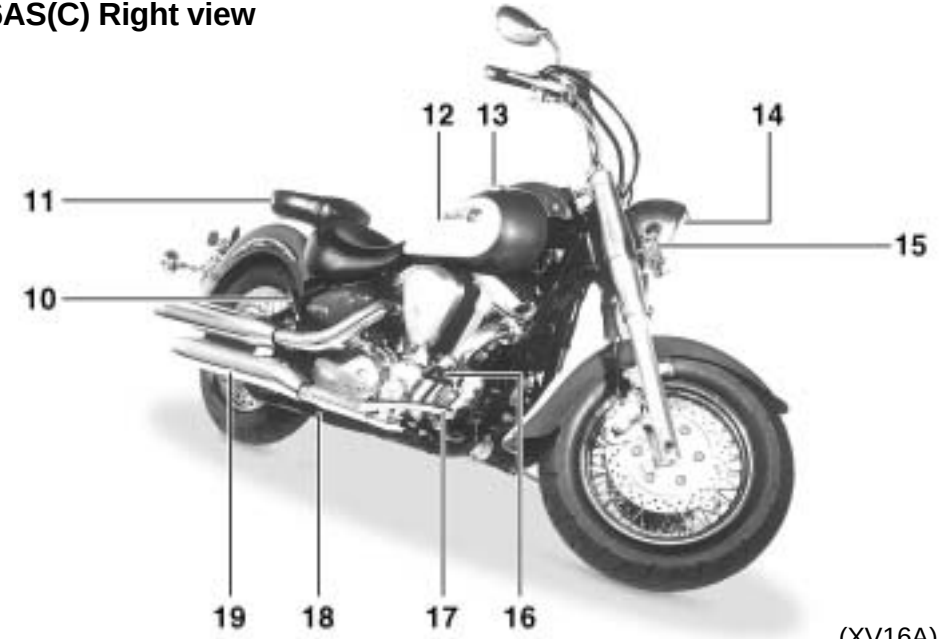
Road Star™
XV16A(C)/XV16AS(C) Left view



(XV16A)

1. Shift pedal	(page 3-7)	6. Helmet holder	(page 3-12)
2. Starter (choke) knob	(page 3-11)	7. Rear turn signal lights	(page 6-35)
3. Fuel cock	(page 3-10)	8. Tail/brake light	(page 6-35)
4. Rider seat	(page 3-11)	9. Fuses	(page 6-32)
5. Owner's tool kit	(page 6-2)		

Road Star™
XV16A(C)/XV16AS(C) Right view

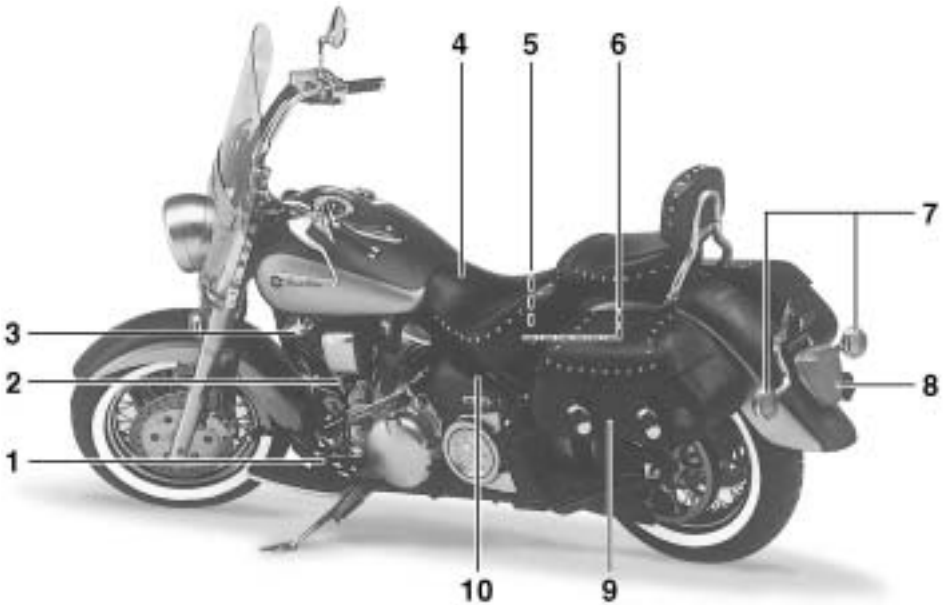


(XV16A)

10. Passenger footrest
11. Passenger seat
12. Fuel tank (page 3-9)
13. Fuel tank cap (page 3-8)
14. Headlight (page 6-33)
15. Front turn signal/position lights (page 6-35)
16. Brake pedal (page 3-8)
17. Rider footrest
18. Shock absorber spring preload adjusting nut (page 3-15)
19. Muffler

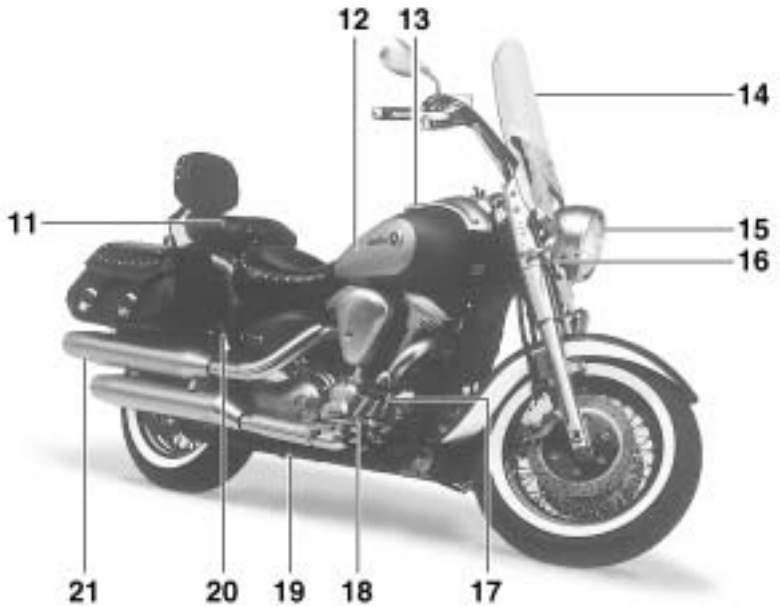
DESCRIPTION

Road Star™/Silverado™
XV16AT(C) Left view



1. Shift pedal	(page 3-7)	6. Helmet holder	(page 3-12)
2. Starter (choke) knob	(page 3-11)	7. Rear turn signal lights	(page 6-35)
3. Fuel cock	(page 3-10)	8. Tail/brake light	(page 6-35)
4. Rider seat	(page 3-11)	9. Saddlebag	(page 3-14)
5. Owner's tool kit	(page 6-2)	10. Fuses	(page 6-32)

Road Star™/Silverado™
XV16AT(C) Right view



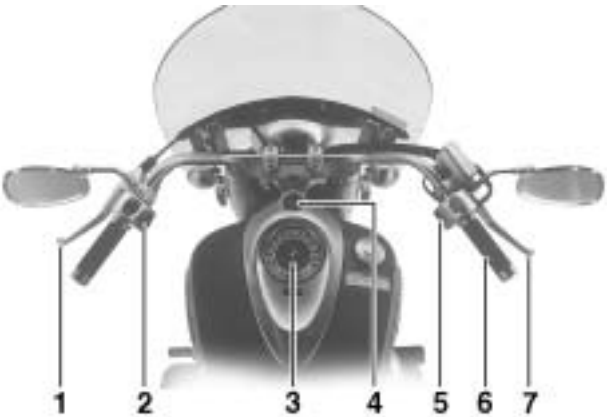
11. Passenger seat
12. Fuel tank (page 3-9)
13. Fuel tank cap (page 3-8)
14. Windshield (page 3-13)
15. Headlight (page 6-33)
16. Front turn signal/position lights (page 6-35)
17. Brake pedal (page 3-8)
18. Rider footrest
19. Shock absorber spring preload adjusting nut (page 3-15)
20. Passenger footrest
21. Muffler

Road Star™/Road Star™ Silverado™
XV16A(C)/XV16AS(C)/XV16AT(C) Controls and instruments

XV16A(C)/XV16AS(C)

(XV16A)

XV16AT(C)



1. Clutch lever (page 3-7)
2. Left handlebar switches (page 3-6)
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5. Right handlebar switches (page 3-6)
6. Throttle grip (page 6-17)
7. Brake lever (page 3-7)

INSTRUMENT AND CONTROL FUNCTIONS

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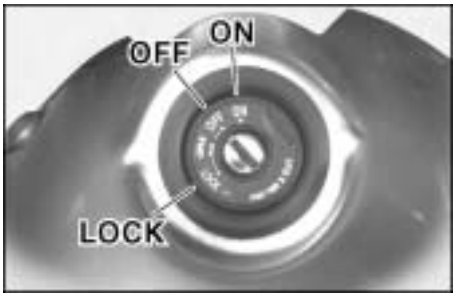
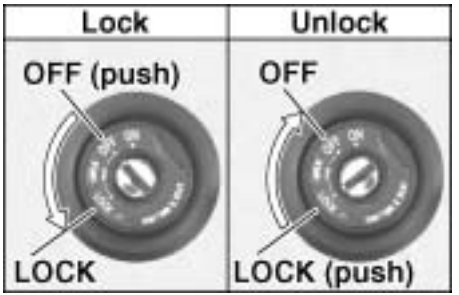
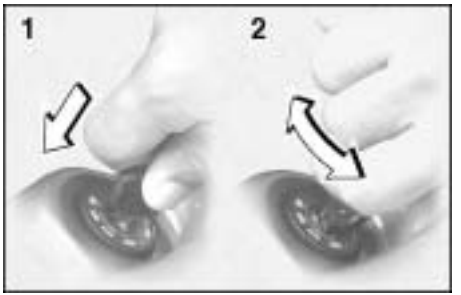






1. Push.
2. Turn.

Main switch/steering lock

The main switch/steering lock controls the ignition and lighting systems, and is used to lock the steering. The various positions are described below.

ON

All electrical systems are supplied with power, the headlight, meter lighting, taillight and front position lights come on, and the engine can be started. The key cannot be removed.

OFF

All electrical systems are off. The key can be removed.

LOCK

The steering is locked, and all electrical systems are off. The key can be removed.

To lock the steering

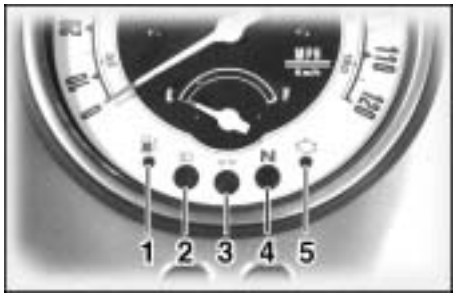
1. Turn the handlebars all the way to the left.
2. Push the key in from the “OFF” position, and then turn it to “LOCK” while still pushing it.
3. Remove the key.

To unlock the steering

Push the key in, and then turn it to “OFF” while still pushing it.

⚠ WARNING

Never turn the key to “OFF” or “LOCK” while the motorcycle is moving, otherwise the electrical systems will be switched off, which may result in loss of control or an accident. Make sure that the motorcycle is stopped before turning the key to “OFF” or “LOCK”.



1. Fuel level warning light “ ”
2. High beam indicator light “ ”
3. Turn signal indicator light “ ”
4. Neutral indicator light “N”
5. Engine trouble warning light “ ”

Indicator and warning lights

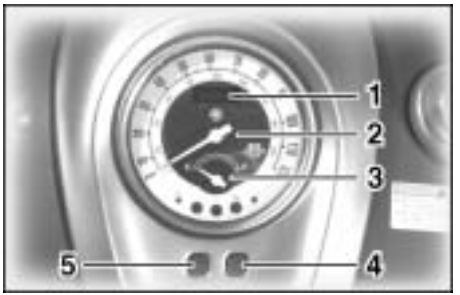
Fuel level warning light “ ”
This warning light comes on when the fuel level drops below approximately 0.9 US gal (0.8 Imp gal, 3.5 L). When this occurs, turn the fuel cock lever to the “RES” position and refuel as soon as possible.

High beam indicator light “ ”
This indicator light comes on when the high beam of the headlight is switched on.

Turn signal indicator light “ ”
This indicator light flashes when the turn signal switch is pushed to the left or right.

Neutral indicator light “ N ”
This indicator light comes on when the transmission is in the neutral position.

Engine trouble warning light “ ”
This warning light comes on or flashes when an electrical circuit monitoring the engine is defective. When this occurs, have the Yamaha dealer check the self-diagnosis system.

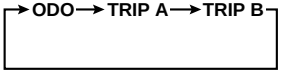


1. Odometer/tripmeter/clock
2. Speedometer
3. Fuel gauge
4. Set button
5. Mode button

Speedometer unit

The speedometer unit is equipped with a speedometer, an odometer and two tripmeters. The speedometer shows riding speed. The odometer shows the total distance traveled. The tripmeters show the distance traveled since they were last set to zero.

Pushing the mode button (left) switches the display between the odometer mode “ODO” and the tripmeter modes “TRIP A” and “TRIP B” in the following order:



To reset a tripmeter, select it by pushing the mode button (left), and then hold down the set button (right) for at least one second. The tripmeters can be used to estimate the distance that can be traveled with a full tank of fuel. This information will enable you to plan future fuel stops.

NOTE:

This motorcycle is not equipped with a tachometer; however, it has a built-in engine speed limiter, which prevents the engine speed from exceeding approximately 4,400 r/min.

Self-diagnosis device

This model is equipped with a self-diagnosis device for various electrical circuits.

If any of those circuits are defective, the engine trouble warning light will come on or the fuel level warning light will flash. If this occurs, have a Yamaha dealer check the motorcycle.

CAUTION:

When the tachometer displays an error code, the motorcycle should be checked as soon as possible in order to avoid engine damage.

Fuel gauge

The fuel gauge indicates the amount of fuel in the fuel tank. The needle moves towards “E” (Empty) as the fuel level decreases. When the needle reaches “E”, refuel as soon as possible.

NOTE:

Do not allow the fuel tank to empty itself completely.

1. Clock
2. Set button
3. Mode button

Clock

The digital clock shows the time regardless of the main switch position.

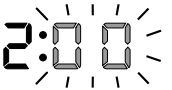
To set the clock:

1. Turn the key to “ON”.
2. Press both the set button (right) and the mode button (left) simultaneously until the hours and minutes flash.

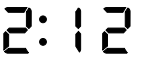
3. Push the left button and only the hour display will flash.

4. Push the right button to change the hours.

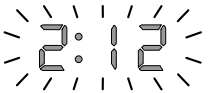
5. Push the left button and only the minute display will flash.



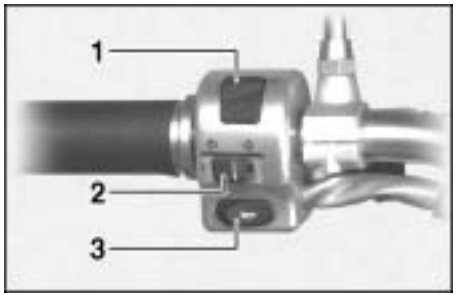
6. Push the right button to change the minutes.



7. Push the left button and both the hours and minutes will flash.



8. Push the right button for two seconds to set the clock.



1. Dimmer switch "≣O / ≣O"
2. Turn signal switch "⇦ ⇨"
3. Horn switch "📯"

Handlebar switches

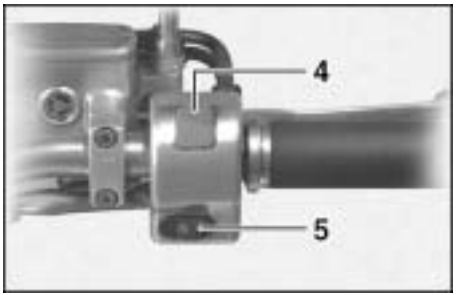
Dimmer switch "≣O / ≣O"
Set this switch to "≣O" for the high beam and to "≣O" for the low beam.

Turn signal switch "⇦ / ⇨"
To signal a right-hand turn, push this switch to the right. To signal a left-hand turn, push this switch to the left. When released, the switch returns to the center position.

Since this model is equipped with a self-canceling system, the turn signal lights will self-cancel after the motorcycle has traveled both about 150 m (490 ft) and for approximately 15 seconds. However, the turn signal lights can also be canceled manually by pushing the switch in after it has returned to the center position.

NOTE:
The self-canceling system only operates when the motorcycle is moving, so that the turn signal lights will not self-cancel while you are stopped at an intersection.

Horn switch "📯"
Press this switch to sound the horn.

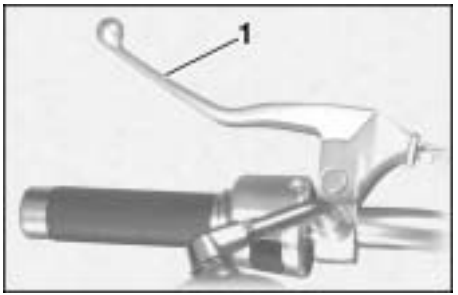


4. Engine stop switch "◯ / ⊠"
5. Start switch "㋡"

Engine stop switch "◯ / ⊠"
Set this switch to "◯" before starting the engine. Set this switch to "⊠" to stop the engine in case of an emergency, such as when the motorcycle overturns or when the throttle cable is stuck.

Start switch "㋡"
Push this switch to crank the engine with the starter.

CAUTION:
See page 5-1 for starting instructions prior to starting the engine.



1. Clutch lever

Clutch lever

The clutch lever is located at the left handlebar grip. To disengage the clutch, pull the lever toward the handlebar grip. To engage the clutch, release the lever. The lever should be pulled rapidly and released slowly for smooth clutch operation.

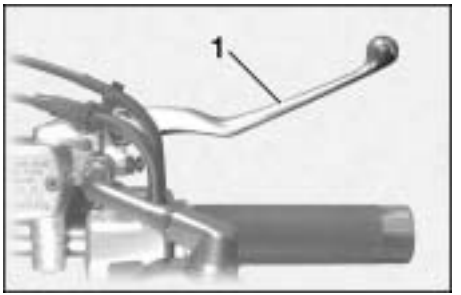
The clutch lever is equipped with a clutch switch, which is part of the ignition circuit cut-off system. (See page 3-17 for an explanation of the ignition circuit cut-off system.)

1. Shift pedal

Shift pedal

The shift pedal is located on the left side of the engine and is used in combination with the clutch lever when shifting the gears of the 5-speed constant-mesh transmission equipped on this motorcycle.

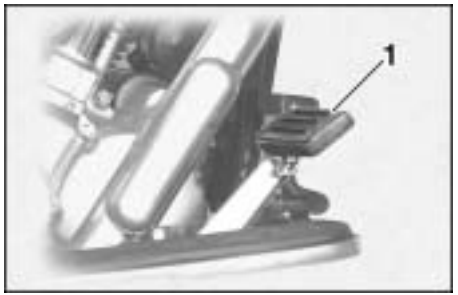
NOTE:
Use your toes or heel to shift up and your toes to shift down.



1. Brake lever

Brake lever

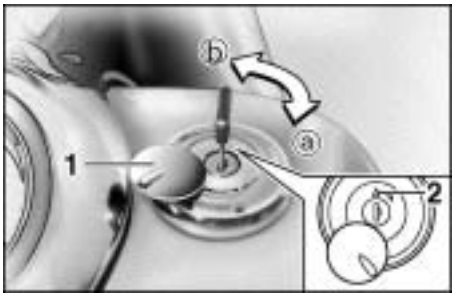
The brake lever is located at the right handlebar grip. To apply the front brake, pull the lever toward the handlebar grip.



1. Brake pedal

Brake pedal

The brake pedal is on the right side of the motorcycle. To apply the rear brake, press down on the brake pedal.



1. Fuel tank cap lock cover
2. "△" mark

a. Unlock.
b. Lock.

Fuel tank cap

To remove the fuel tank cap

Slide the lock cover open, insert the key into the lock, and then turn it 1/4 turn clockwise. The lock will be released and the fuel tank cap can be removed.

To install the fuel tank cap

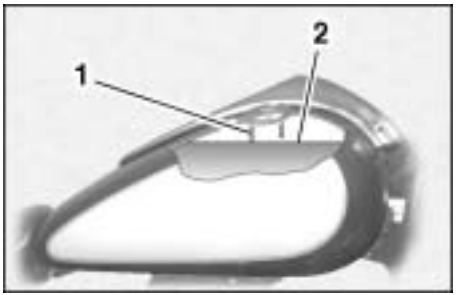
1. Insert the fuel tank cap into the tank opening with the key inserted in the lock and with the "△" mark facing forward.
2. Turn the key counterclockwise to the original position, remove it, and then close the lock cover.

NOTE:

The fuel tank cap cannot be installed unless the key is in the lock. In addition, the key cannot be removed if the cap is not properly installed and locked.

⚠ WARNING

Make sure that the fuel tank cap is properly installed before riding.



1. Fuel tank filler tube
2. Fuel level

Fuel

Make sure that there is sufficient fuel in the tank. Fill the fuel tank to the bottom of the filler tube as shown.

⚠ WARNING

- **Do not overfill the fuel tank, otherwise it may overflow when the fuel warms up and expands.**
- **Avoid spilling fuel on the hot engine.**

CAUTION:

Immediately wipe off spilled fuel with a clean, dry, soft cloth, since fuel may deteriorate painted surfaces or plastic parts.

Recommended fuel:
UNLEADED GASOLINE ONLY
Fuel tank capacity:
Total amount:
5.3 US gal (4.4 Imp gal, 20 L)
Reserve amount:
0.9 US gal (0.8 Imp gal, 3.5 L)

CAUTION:

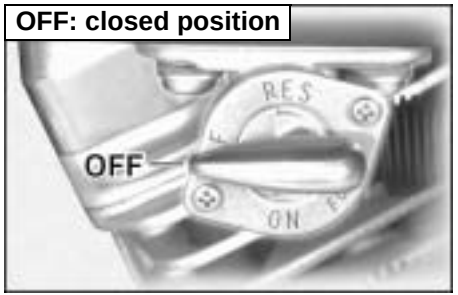
Use only unleaded gasoline. The use of leaded gasoline will cause severe damage to the engine internal parts such as valves, piston rings, exhaust system, etc.

Your Yamaha engine has been designed to use regular unleaded gasoline with a pump octane number [(R+M)/2] of 86 or higher, or a research octane number of 91 or higher. If knocking (or pinging) occurs, use a gasoline of a different brand or premium unleaded fuel. Use of unleaded fuel will extend spark plug life and reduce maintenance costs.

Gasohol

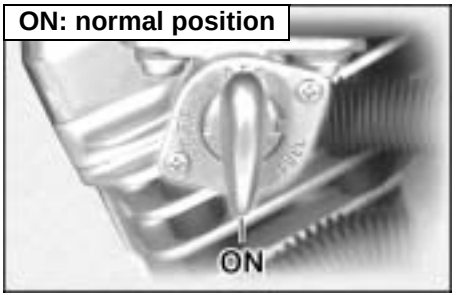
There are two types of gasohol: gasohol containing ethanol and that containing methanol. Gasohol containing ethanol can be used if the ethanol content does not exceed 10%. Gasohol containing methanol is not recommended by Yamaha because it can cause damage to the fuel system or vehicle performance problems.

OFF: closed position



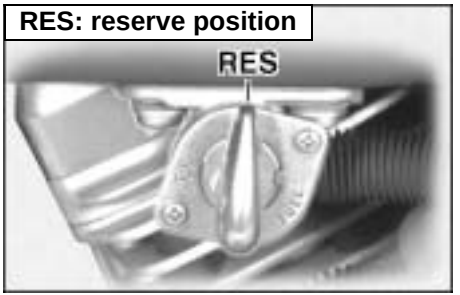
Pointed end positioned over “OFF”

ON: normal position



Pointed end positioned over “ON”

RES: reserve position



Pointed end positioned over “RES”

Fuel cock

The fuel cock supplies fuel from the tank to the carburetor while filtering it also.

The fuel cock has three positions:

OFF

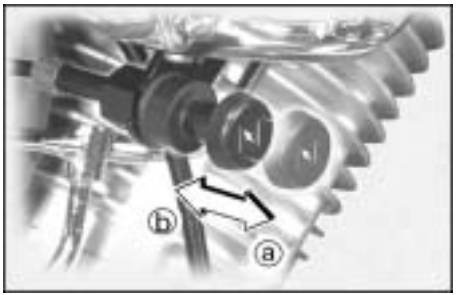
With the lever in this position, fuel will not flow. Always return the lever to this position when the engine is not running.

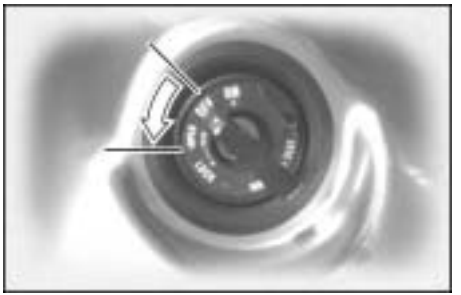
ON

With the lever in this position, fuel flows to the carburetor. Normal riding is done with the lever in this position.

RES

This indicates reserve. If you run out of fuel while riding, move the lever to this position. Fill the tank at the first opportunity. Be sure to set the lever back to “ON” after refueling!





Starter (choke) knob "⎇"

Starting a cold engine requires a richer air-fuel mixture, which is supplied by the starter (choke).

Move the knob in direction a to turn on the starter (choke).

Move the knob in direction b to turn off the starter (choke).

Locking the steering with a padlock

In addition to the main switch/steering lock, there are brackets on the right side of the steering head pipe for locking the steering with a padlock. To do so, turn the handlebar until the holes in the two brackets are aligned, and then lock the steering with a suitable padlock.

Rider seat

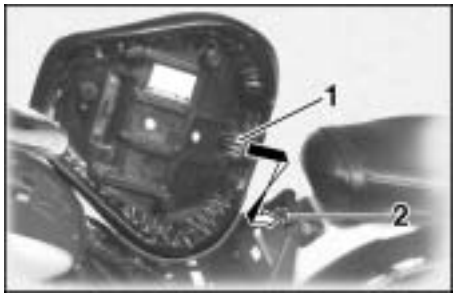
To remove the rider seat

1. Insert the key into the main switch, and then turn it counterclockwise to "OPEN".

NOTE:

Do not push inward when turning the key.

2. Pull the rider seat off.



1. Projection
2. Seat holder

To install the rider seat

1. Insert the projection on the rear of the rider seat into the seat holder as shown, and then push the front of the seat down to lock it in place.
2. Remove the key from the main switch if the motorcycle will be left unattended.

NOTE:
Make sure that the rider seat is properly secured before riding.

1. Helmet holder

Helmet holder

The helmet holder is located under the rider seat.

To secure a helmet to the helmet holder

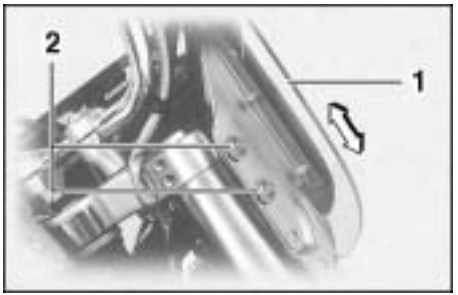
1. Remove the rider seat. (See page 3-11 for rider seat removal and installation procedures.)
2. Attach the helmet to the helmet holder, and then securely install the seat.

WARNING

Never ride with a helmet attached to the helmet holder, since the helmet may hit objects, causing loss of control and possibly an accident.

To release the helmet from the helmet holder

Remove the rider seat, remove the helmet from the helmet holder, and then install the seat.



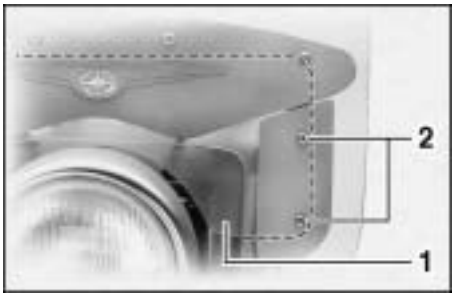
1. Windshield
2. Bolt (× 4)

Windshield [XV16AT(C)]

To suit the rider's preference, the windshield angle can be adjusted and the height can be changed to one of two positions.

To adjust the windshield angle

1. Loosen the bolts on each side of the windshield.
2. Move the windshield to the desired angle.
3. Tighten the bolts to the specified torque.



1. Headlight cover
2. Screw (× 4)

To change the windshield height

1. Remove the bolts on each side of the windshield.
2. Move the windshield to the other position.
3. Install the bolts and tighten them to the specified torque.

Tightening torque:
Windshield bolts:
12 ft·lb (1.6 m·kgf, 16 Nm)

4. Loosen the screws holding the windshield cover located above the headlight, position the cover close to the headlight without touching it, and then tighten the screws.

⚠ WARNING

After adjusting the windshield:

- **Securely tighten the windshield bolts.**
- **Turn the handlebar to the left and right to make sure that the handlebar is not obstructed and that the windshield does not contact any other parts.**
- **Open the throttle and make sure that the throttle grip returns properly when released, otherwise an accident or injury could result.**

Saddlebags [XV16AT(C)]

To open

Unbuckle the belts and fold up the flap.

To close

Fold the flap down and buckle both belts securely.

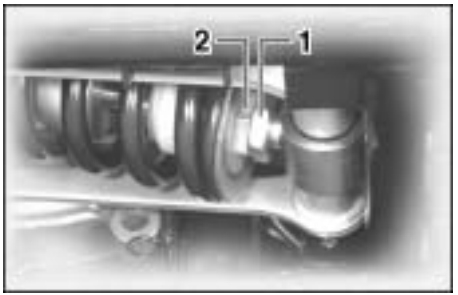
NOTE:

For saddlebag cleaning and care, see page 7-4.

⚠ WARNING

Improper loading or overloading can cause loss of control and possibly an accident or personal injury.

- **Always securely close each side case before riding.**
- **Distribute weight evenly on each side of the motorcycle.**
- **Do not exceed the load limit of 11 lb (5 kg) for each side case.**
- **Do not exceed the maximum load of XV16A(C)XV16AS(C): 432 lb (196 kg) / XV16AT(C): 399 lb (181 kg) for the vehicle.**



1. Locknut
2. Spring preload adjusting nut

Adjusting the shock absorber assembly

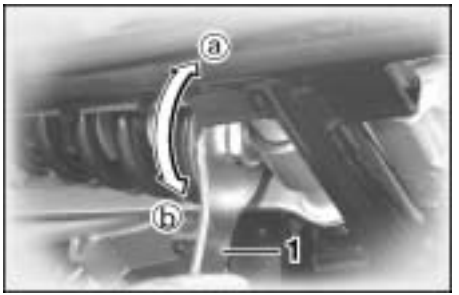
This shock absorber assembly is equipped with a spring preload adjusting nut.

CAUTION:

Never attempt to turn an adjusting mechanism beyond the maximum or minimum settings.

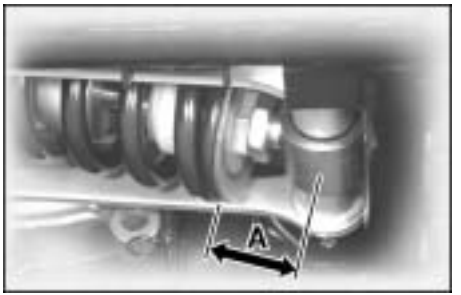
Adjust the spring preload as follows.

1. Loosen the locknut.



1. Special wrench

2. To increase the spring preload and thereby harden the suspension, turn the adjusting nut in direction a . To decrease the spring preload and thereby soften the suspension, turn the adjusting nut in direction b .



A. Distance A

NOTE:

The spring preload setting is determined by measuring distance A, shown in the illustration. The shorter distance A is, the lower the spring preload; the longer distance A is, the higher the spring preload.

Spring preload:
Minimum (soft):
Distance A = 1.67 in (42.5 mm)
Standard:
XV16A/XV16AS
Distance A = 1.67 in (42.5 mm)
XV16AT
Distance A = 1.79 in (45.5 mm)
Maximum (hard):
Distance A = 2.02 in (51.5 mm)

3. Tighten the locknut to the specified torque.

Tightening torque:
Locknut:
25 ft·lb (3.5 m·kgf, 35 Nm)

CAUTION:

Always tighten the locknut against the adjusting nut, and then tighten the locknut to the specified torque.

⚠ WARNING

This shock absorber contains highly pressurized nitrogen gas. For proper handling, read and understand the following information before handling the shock absorber. The manufacturer cannot be held responsible for property damage or personal injury that may result from improper handling.

- **Do not tamper with or attempt to open the gas cylinder.**
- **Do not subject the shock absorber to an open flame or other high heat sources, otherwise it may explode due to excessive gas pressure.**
- **Do not deform or damage the gas cylinder in any way, as this will result in poor damping performance.**
- **Always have a Yamaha dealer service the shock absorber.**

Sidestand

The sidestand is located on the left side of the frame. Raise the sidestand or lower it with your foot while holding the motorcycle upright.

NOTE:

The built-in sidestand switch is part of the ignition circuit cut-off system, which cuts the ignition in certain situations. (See further down for an explanation of the ignition circuit cut-off system.)

⚠ WARNING

The motorcycle must not be ridden with the sidestand down, or if the sidestand cannot be properly moved up (or does not stay up), otherwise the sidestand could contact the ground and distract the operator, resulting in a possible loss of control. Yamaha's ignition circuit cut-off system has been designed to assist the operator in fulfilling the responsibility of raising the sidestand before starting off. Therefore, check this system regularly as described below and have a Yamaha dealer repair it if it does not function properly.

Ignition circuit cut-off system

The ignition circuit cut-off system (comprising the sidestand switch, clutch switch and neutral switch) has the following functions.

- It prevents starting when the transmission is in gear and the sidestand is up, but the clutch lever is not pulled.
- It prevents starting when the transmission is in gear and the clutch lever is pulled, but the sidestand is still down.
- It cuts the running engine when the transmission is in gear and the sidestand is moved down.

Periodically check the operation of the ignition circuit cut-off system according to the following procedure.

⚠ WARNING

If a malfunction is noted, have a Yamaha dealer check the system before riding.

With the engine turned off:
1. Move the sidestand down.
2. Make sure that the engine stop switch is set to "".
3. Turn the key to "ON".
4. Shift the transmission into the neutral position.
5. Push the start switch.

Does the engine start?

YES **NO** → The neutral switch may be defective. **The motorcycle should not be ridden** until checked by a Yamaha dealer.

With the engine still running:
6. Move the sidestand up.
7. Keep the clutch lever pulled.
8. Shift the transmission into gear.
9. Move the sidestand down.

Does the engine stall?

YES **NO** → The sidestand switch may be defective. **The motorcycle should not be ridden** until checked by a Yamaha dealer.

After the engine has stalled:
10. Move the sidestand up.
11. Keep the clutch lever pulled.
12. Push the start switch.

Does the engine start?

YES **NO** → The clutch switch may be defective. **The motorcycle should not be ridden** until checked by a Yamaha dealer.

The system is OK. **The motorcycle can be ridden.**

NOTE:
This check is most reliable if performed with a warmed-up engine.

PRE-OPERATION CHECKS

Pre-operation check list 4-1

PRE-OPERATION CHECKS

The condition of a vehicle is the owner's responsibility. Vital components can start to deteriorate quickly and unexpectedly, even if the vehicle remains unused (for example, as a result of exposure to the elements). Any damage, fluid leakage or loss of tire air pressure could have serious consequences. Therefore, it is very important, in addition to a thorough visual inspection, to check the following points before each ride.

Pre-operation check list

ITEM	CHECKS	PAGE
Fuel	• Check fuel level in fuel tank. • Refuel if necessary. • Check fuel line for leakage.	3-9
Engine oil	• Check oil level in engine. • If necessary, add recommended oil to specified level. • Check vehicle for oil leakage.	6-9–6-12
Front brake	• Check operation. • If soft or spongy, have Yamaha dealer bleed hydraulic system. • Check lever free play. • Adjust if necessary. • Check fluid level in reservoir. • If necessary, add recommended brake fluid to specified level. • Check hydraulic system for leakage.	6-21–6-25
Rear brake	• Check operation. • If soft or spongy, have Yamaha dealer bleed hydraulic system. • Check fluid level in reservoir. • If necessary, add recommended brake fluid to specified level. • Check hydraulic system for leakage.	6-22–6-25
Clutch	• Check operation. • Lubricate cable if necessary. • Check lever free play. • Adjust if necessary.	6-21
Throttle grip	• Make sure that operation is smooth. • Check free play. • If necessary, have Yamaha dealer make adjustment or lubricate.	6-17

ITEM	CHECKS	PAGE
Control cables	• Make sure that operation is smooth. • Lubricate if necessary.	—
Wheels and tires	• Check for damage. • Check tire condition and tread depth. • Check air pressure. • Correct if necessary.	6-18–6-19
Brake and shift pedals	• Make sure that operation is smooth. • Lubricate pedal pivoting points if necessary.	6-28
Brake and clutch levers	• Make sure that operation is smooth. • Lubricate lever pivoting points if necessary.	6-29
Sidestand	• Make sure that operation is smooth. • Lubricate pivot if necessary.	6-29
Chassis fasteners	• Make sure that all nuts, bolts and screws are properly tightened. • Tighten if necessary.	—
Instruments, lights, signals and switches	• Check operation. • Correct if necessary.	—
Sidestand switch	• Check operation of ignition circuit cut-off system. • If system is defective, have Yamaha dealer check vehicle.	3-17

NOTE:

Pre-operation checks should be made each time the motorcycle is used. Such an inspection can be accomplished in a very short time; and the added safety it assures is more than worth the time involved.

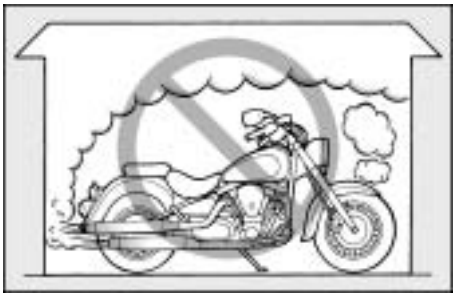
⚠ WARNING

If any item in the Pre-operation check list is not working properly, have it inspected and repaired before operating the motorcycle.

OPERATION AND IMPORTANT RIDING POINTS

Starting and warming up a cold engine 5-1
Starting a warm engine 5-3
Shifting 5-3
Engine break-in 5-5
Parking 5-6

OPERATION AND IMPORTANT RIDING POINTS



⚠ WARNING

- **Become thoroughly familiar with all operating controls and their functions before riding. Consult a Yamaha dealer regarding any control or function that you do not thoroughly understand.**
- **Never start the engine or operate it in a closed area for any length of time. Exhaust fumes are poisonous, and inhaling them can cause loss of consciousness and death within a short time. Always make sure that there is adequate ventilation.**
- **Before starting out, make sure that the sidestand is up. If the sidestand is not raised completely, it could contact the ground and distract the operator, resulting in a possible loss of control.**

CAUTION:

- **Make sure not to store personal items near the air cleaner intake, otherwise air intake will be blocked and performance will suffer.**
- **Make sure not to put anything near the battery and its terminals, otherwise electrical failure and acid corrosion may result.**

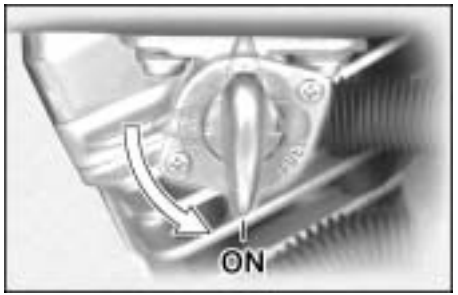
Starting and warming up a cold engine

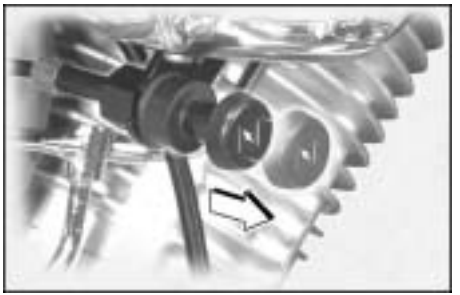
In order for the ignition circuit cut-off system to enable starting, one of the following conditions must be met:

- The transmission is in the neutral position.
- The transmission is in gear with the clutch lever pulled and the sidestand up.

⚠ WARNING

- **Before starting the engine, check the function of the ignition circuit cut-off system according to the procedure described on page 3-18.**
- **Never ride with the sidestand down.**





1. Turn the fuel cock lever to “ON”.
2. Turn the key to “ON” and make sure that the engine stop switch is set to “ ”.
3. Shift the transmission into the neutral position.

NOTE:

When the transmission is in the neutral position, the neutral indicator light should be on, otherwise have a Yamaha dealer check the electrical circuit.

4. Turn the starter (choke) on and completely close the throttle. (See page 3-11 for starter (choke) operation.)
5. Start the engine by pushing the start switch.

NOTE:

If the engine fails to start, release the start switch, wait a few seconds, and then try again. Each starting attempt should be as short as possible to preserve the battery. Do not crank the engine more than 10 seconds on any one attempt.

6. After starting the engine, move the starter (choke) knob back halfway.

CAUTION:

For maximum engine life, always warm the engine up before starting off. Never accelerate hard when the engine is cold!

7. When the engine is warm, turn the starter (choke) off.

NOTE:

The engine is warm when it responds normally to the throttle with the starter (choke) turned off. To avoid the possibility of excessive exhaust emissions, never leave the starter (choke) on longer than necessary. The time necessary for starter (choke) use depends upon the ambient temperature. Temperatures above 50°F (10°C) require about 7 seconds of starter (choke) use and temperatures below 50°F (10°C) require about 35 seconds with the starter (choke) turned on, then about 2.5 minutes with the starter (choke) in the halfway position.

Starting a warm engine

Follow the same procedure as for starting a cold engine with the exception that the starter (choke) is not required when the engine is warm.

Shifting

Shifting gears lets you control the amount of engine power available for starting off, accelerating, climbing hills, etc.

The gear positions are shown in the illustration.

NOTE:

To shift the transmission into the neutral position, press the shift pedal down repeatedly until it reaches the end of its travel, and then slightly raise it.

CAUTION:

- **Even with the transmission in the neutral position, do not coast for long periods of time with the engine off, and do not tow the motorcycle for long distances. The transmission is properly lubricated only when the engine is running. Inadequate lubrication may damage the transmission.**
- **Always use the clutch while changing gears to avoid damaging the engine, transmission, and drive train, which are not designed to withstand the shock of forced shifting.**

To start out and accelerate

1. Pull the clutch lever to disengage the clutch.
2. Shift the transmission into first gear. The neutral indicator light should go out.
3. Open the throttle gradually, and at the same time, release the clutch lever slowly.
4. At the recommended shift points shown in the following table, close the throttle, and at the same time, quickly pull the clutch lever in.
5. Shift the transmission into second gear. (Make sure not to shift the transmission into the neutral position.)
6. Open the throttle part way and gradually release the clutch lever.
7. Follow the same procedure when shifting to the next higher gear.

NOTE:
Always shift gears at the recommended shift points.

To decelerate

1. Apply both the front and the rear brakes to slow the motorcycle.
2. Shift the transmission into first gear when the motorcycle reaches 16 mi/h (25 km/h). If the engine is about to stall or runs very roughly, pull the clutch lever in and use the brakes to stop the motorcycle.
3. Shift the transmission into the neutral position when the motorcycle is almost completely stopped. The neutral indicator light should come on.

Recommended shift points

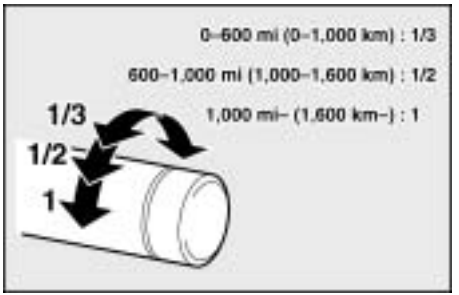
The recommended shift points during acceleration and deceleration are shown in the table below.

	Acceleration shift point mi/h (km/h)	Deceleration shift point mi/h (km/h)
1st → 2nd	13 (20)	16 (25)
2nd → 3rd	19 (30)	16 (25)
3rd → 4th	25 (40)	16 (25)
4th → 5th	31 (50)	16 (25)

Engine break-in

There is never a more important period in the life of your engine than the period between 0 and 1,000 mi (1,600 km). For this reason, you should read the following material carefully.

Since the engine is brand new, do not put an excessive load on it for the first 1,000 mi (1,600 km). The various parts in the engine wear and polish themselves to the correct operating clearances. During this period, prolonged full-throttle operation or any condition that might result in engine overheating must be avoided.



0–600 mi (0–1,000 km)

Avoid prolonged operation above 1/3 throttle.

600–1,000 mi (1,000–1,600 km)

Avoid prolonged operation above 1/2 throttle.

CAUTION:

After 600 mi (1,000 km) of operation, the engine oil and transfer case oil must be changed, and the oil filter cartridge replaced.

1,000 mi (1,600 km) and beyond

The vehicle can now be operated normally.

CAUTION:

If any engine trouble should occur during the engine break-in period, immediately have a Yamaha dealer check the vehicle.

Parking

When parking, stop the engine, remove the key from the main switch, and then turn the fuel cock lever to "OFF".

⚠ WARNING

- **Since the engine and exhaust system can become very hot, park in a place where pedestrians or children are not likely to touch them.**
- **Do not park on a slope or on soft ground, otherwise the motorcycle may overturn.**

PERIODIC MAINTENANCE AND MINOR REPAIR

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PERIODIC MAINTENANCE AND MINOR REPAIR

Safety is an obligation of the owner. Periodic inspection, adjustment and lubrication will keep your vehicle in the safest and most efficient condition possible. The most important points of motorcycle inspection, adjustment, and lubrication are explained on the following pages.

Maintenance, replacement, or repair of the emission control devices and systems may be performed by any repair establishment or individual that is certified (if applicable).

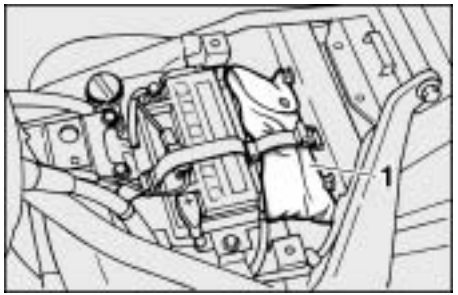
6

⚠ WARNING

If you are not familiar with motorcycle maintenance work, have a Yamaha dealer do it for you.

PERIODIC MAINTENANCE

PROPER PERIODIC MAINTENANCE OF YOUR MOTORCYCLE IS IMPORTANT IN ORDER TO ENJOY LONG, PLEASURABLE SERVICE. ESPECIALLY IMPORTANT ARE THE MAINTENANCE SERVICES RELATED TO EMISSIONS CONTROL. THESE CONTROLS NOT ONLY FUNCTION TO ENSURE CLEANER AIR, BUT ARE ALSO VITAL TO PROPER ENGINE OPERATION AND MAXIMUM PERFORMANCE. IN THE FOLLOWING PERIODIC MAINTENANCE CHARTS, THE SERVICES RELATED TO EMISSIONS CONTROL ARE GROUPED SEPARATELY. THESE SERVICES REQUIRE SPECIALIZED DATA, KNOWLEDGE, AND EQUIPMENT. YAMAHA DEALERS ARE TRAINED AND EQUIPPED TO PERFORM THESE PARTICULAR SERVICES.



1. Owner's tool kit

Owner's tool kit

The owner's tool kit is located under the rider seat. (See page 3-11 for rider seat removal and installation procedures.)

The service information included in this manual and the tools provided in the owner's tool kit are intended to assist you in the performance of preventive maintenance and minor repairs. However, additional tools such as a torque wrench may be necessary to perform certain maintenance work correctly.

NOTE:

If you do not have the tools or experience required for a particular job, have a Yamaha dealer perform it for you.

⚠ WARNING

Modifications not approved by Yamaha may cause loss of performance, excessive emissions, and render the vehicle unsafe for use. Consult a Yamaha dealer before attempting any changes.

Periodic maintenance chart for the emission control system

No.		ITEM	ROUTINE	INITIAL	ODOMETER READINGS				
				600 mi (1,000 km) or 1 month	4,000 mi (7,000 km) or 6 months	8,000 mi (13,000 km) or 12 months	12,000 mi (19,000 km) or 18 months	16,000 mi (25,000 km) or 24 months	20,000 mi (31,000 km) or 30 months
1	*	Valve clearance	• Check valve clearance when engine is cold. • Adjust if necessary.	Every 16,000 mi (25,000 km)					
2		Spark plug	• Check condition. • Adjust gap and clean. • Replace at 8,000 mi (13,000 km) or 12 months and thereafter every 8,000 mi (13,000 km) or 12 months.		√	Replace	√	Replace	√
3	*	Crankcase ventilation system	• Check ventilation hose for cracks or damage. • Replace if necessary.		√	√	√	√	√
4	*	Fuel line	• Check fuel hose for cracks or damage. • Replace if necessary.		√	√	√	√	√
5	*	Fuel filter	• Replace initial 20,000 mi (31,000 km) or 30 months and thereafter every 20,000 mi (31,000 km) or 30 months.						Replace
6	*	Exhaust system	• Check for leakage. • Retighten if necessary. • Replace gasket(s) if necessary.		√	√	√	√	√
7	*	Idle speed	• Check and adjust engine idle speed. • Adjust cable free play.	√	√	√	√	√	√
8	*	Evaporative Emission control system (For California only)	• Check control system for damage. • Replace if necessary.				√		√

* Since these items require special tools, data and technical skills, have a Yamaha dealer perform the service.

General maintenance and lubrication chart

No.		ITEM	ROUTINE	TYPE	INITIAL	ODOMETER READINGS				
					600 mi (1,000 km) **or 1 month**	**4,000 mi** (7,000 km) **or 6 months**	**8,000 mi** (13,000 km) **or 12 months**	**12,000 mi** (19,000 km) **or 18 months**	**16,000 mi** (25,000 km) **or 24 months**	**20,000 mi** (31,000 km) **or 30 months**
1		**Engine oil**	• Replace	See page 8-1.	√	√	√	√	√	√
2	*	**Oil filter**	• Replace	-	√		√		√	
3	*	**Air filter (See NOTE on page 6-6.)**	• Clean with compressed air. • Replace if necessary.	-		√	√	√	√	√
4	*	**Front brake**	• Check operation and fluid leakage. (See NOTE page 6-6.) • Correct if necessary.	-	√	√	√	√	**Replace brake fluid**	√
5	*	**Rear brake**	• Check operation and fluid leakage. (See NOTE page 6-6.) • Correct if necessary.	-	√	√	√	√	**Replace brake fluid**	√
6	*	**Clutch**	• Check operation and free play. • Correct if necessary.	-	√	√	√	√	√	√
7	*	**Transfer case oil**	• Check vehicle for leakage. • Replace every 16,000 mi (25,000 km) or 24 months.	SAE 80 API “GL-4” hypoid gear oil	**Replace**		**Check**		**Replace**	
8	*	**Control cable**	• Apply chain lube thoroughly.	Yamaha chain and cable lube or SAE 10W30 motor oil	√	√	√	√	√	√
9	*	**Rear arm pivot bearing**	• Check bearing assembly for looseness. • Moderately repack every 16,000 mi (25,000 km) or 24 months.	Medium weight wheel bearing grease			√		**Repack**	

* Since these items require special tools, data and technical skills, have a Yamaha dealer perform the service.

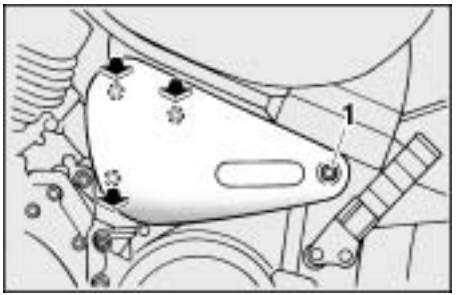
No.		ITEM	ROUTINE	TYPE	INITIAL	ODOMETER READINGS				
					600 mi (1,000 km) or 1 month	4,000 mi (7,000 km) or 6 months	8,000 mi (13,000 km) or 12 months	12,000 mi (19,000 km) or 18 months	16,000 mi (25,000 km) or 24 months	20,000 mi (31,000 km) or 30 months
10		**Brake/ Clutch lever pivot shaft**	• Apply chain lube lightly.	Yamaha chain and cable lube or SAE 10W30 motor oil		√	√	√	√	√
11		**Brake pedal and shift pedal shaft**	• Lubricate • Apply chain lube lightly.	Yamaha chain and cable lube or SAE 10W30 motor oil		√	√	√	√	√
12	*	**Sidestand pivot**	• Check operation and lubricate. • Apply chain lube lightly.	Yamaha chain and cable lube or SAE 10W30 motor oil		√	√	√	√	√
13	*	**Sidestand switch**	• Check and clean or replace if necessary.	-	√	√	√	√	√	√
14	*	**Front fork**	• Check operation and for leakage.	-		√	√	√	√	√
15	*	**Steering bearings**	• Check bearing assembly for looseness. • Moderately repack every 16,000 mi (25,000 km) or 24 months.	Lithium soap base grease		√	√	√	**Repack**	√
16	*	**Wheel bearings**	• Check bearings for smooth rotation.	-		√	√	√	√	√
17	*	**Rear suspension link pivots**	• Apply grease lightly.	Molybdenum disulfide grease					√	
18	*	**Drive belt**	• Check for belt tension • Adjust if necessary	-	√	**Every 2,500 mi (4,000 km)**				

* Since these items require special tools, data and technical skills, have a Yamaha dealer perform the service.

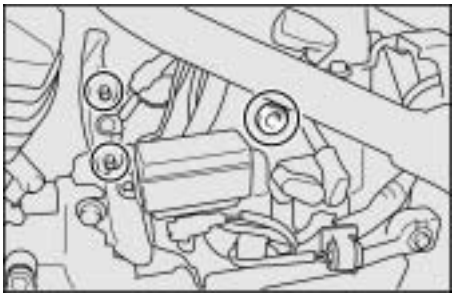
NOTE:
From 24,000 mi (37,000 km) or 36 months, repeat the maintenance intervals starting from 4,000 mi (7,000 km) or 6 months.

NOTE:
- The air filter needs more frequent service if you are riding in unusually wet or dusty areas.
- Hydraulic brake system
  - When disassembling the master cylinder or caliper cylinder, always replace the brake fluid. Check the brake fluid level regularly and fill as required.
  - Replace the oil seals on the inner parts of the master cylinder and caliper cylinder every two years.
  - Replace the brake hoses every four years or if cracked or damaged.

1. Panel A



1. Bolt



Removing and installing the panel

The panel shown above needs to be removed to perform some of the maintenance jobs described in this chapter. Refer to this section each time the panel needs to be removed and installed.

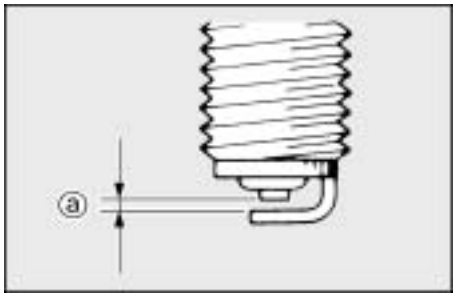
Panel A

To remove the panel

Remove the bolt, and then pull the panel off as shown.

To install the panel

Place the panel in the original position, and then install the bolt.



a. Spark plug gap

Checking the spark plugs

The spark plugs are important engine components, which should be checked periodically, preferably by a Yamaha dealer. Since heat and deposits will cause any spark plug to slowly erode, they should be removed and checked in accordance with the periodic maintenance and lubrication chart. In addition, the condition of the spark plugs can reveal the condition of the engine.

The porcelain insulator around the center electrode of each spark plug should be a medium-to-light tan (the ideal color when the motorcycle is ridden normally), and all spark plugs installed in the engine should have the same color. If any spark plug shows a distinctly different color, the engine could be defective. Do not attempt to diagnose such problems yourself. Instead, have a Yamaha dealer check the motorcycle.
If a spark plug shows signs of electrode erosion and excessive carbon or other deposits, it should be replaced.

Specified spark plug:
DPR7EA-9/NGK or
X22EPR-U9/DENSO

Before installing a spark plug, the spark plug gap should be measured with a wire thickness gauge and, if necessary, adjusted to specification.

Spark plug gap:
0.03–0.04 in (0.8–0.9 mm)

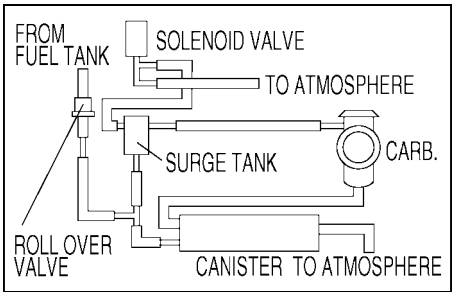
Clean the surface of the spark plug gasket and its mating surface, and then wipe off any grime from the spark plug threads.

Tightening torque:
Spark plug:
12.5 ft·lb (1.75 m·kgf, 17.5 Nm)

NOTE:
If a torque wrench is not available when installing a spark plug, a good estimate of the correct torque is 1/4–1/2 turn past finger tight. However, the spark plug should be tightened to the specified torque as soon as possible.

CAUTION:

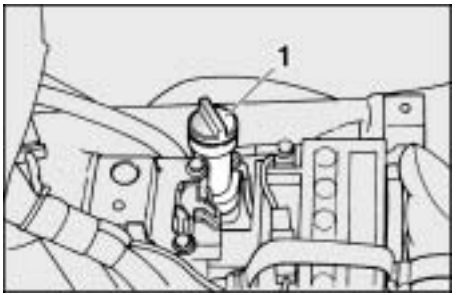
Do not use any tools to remove or install the spark plug cap, otherwise the ignition coil coupler may get damaged. The spark plug cap may be difficult to remove because the rubber seal on the end of the cap fits tightly. To remove the spark plug cap, simply twist it back and forth while pulling it out; to install it, twist it back and forth while pushing it in.



Canister (for California only)

This model is equipped with a canister to prevent the discharging of fuel vapor into the atmosphere. Before operating this motorcycle, make sure to check the following:

- Check each hose connection.
- Check each hose and canister for cracks or damage. Replace if damaged.
- Make sure that the canister breather is not blocked, and if necessary, clean it.



1. Engine oil filler cap

Engine oil and oil filter cartridge

The engine oil level should be checked before each ride. In addition, the oil must be changed and the oil filter cartridge replaced at the intervals specified in the periodic maintenance and lubrication chart.

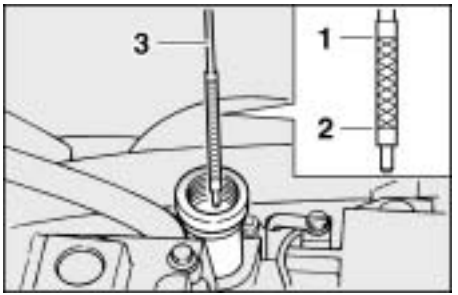
To check the engine oil level

1. Place the motorcycle on a level surface and hold it in an upright position.

NOTE:
Make sure that the motorcycle is positioned straight up when checking the oil level. A slight tilt to the side can result in a false reading.

2. Remove the rider seat. (See page 3-11 for rider seat removal and installation procedures.)
3. Start the engine, warm it up until the engine oil has reached a normal temperature of 140 °F (60 °C), let it continue to idle for ten seconds, and then turn the engine off.

NOTE:
To achieve the proper engine oil temperature for an accurate oil level reading, the engine must have first completely cooled down, and then warmed up again for several minutes to normal operating temperature.



1. Maximum level mark
2. Minimum level mark
3. Dipstick

4. Wait a few minutes until the oil settles, remove the oil filler cap, wipe the dipstick clean, insert it back into the oil filler hole (without screwing it in), and then remove it again to check the oil level.

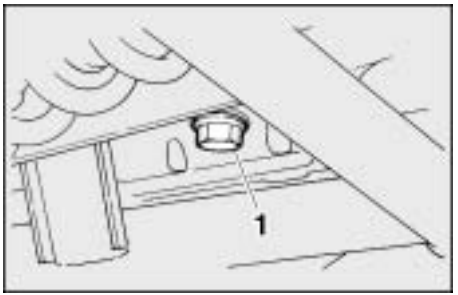
NOTE:
The engine oil should be between the minimum and maximum level marks.

5. If the engine oil is below the minimum level mark, add sufficient oil of the recommended type to raise it to the correct level.

NOTE:
When adding oil, be careful not to overfill the engine; the oil level rises faster starting from the half level portion on the dipstick.

6. Insert the dipstick into the oil filler hole, and then tighten the oil filler cap.
7. Install the rider seat.

CAUTION:
Make sure that the oil filler cap is securely tightened, otherwise oil may seep out when the engine is running.



1. Engine oil drain bolt (oil tank)

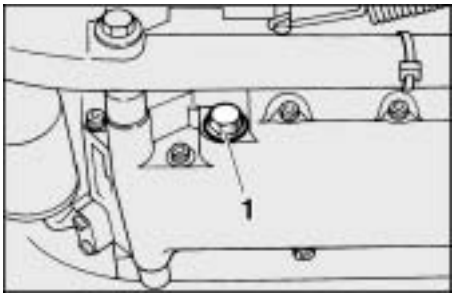
To change the engine oil (with or without oil filter cartridge replacement)

1. Start the engine, warm it up for several minutes, and then turn it off.
2. Place an oil pan under the oil tank to collect the used oil.
3. Remove the engine oil filler cap and drain bolt to drain the oil from the oil tank.

NOTE:
Skip steps 4–8 if the oil filter cartridge is not being replaced.

4. Place an oil pan under the engine to collect the used oil.
5. Remove the engine oil drain bolt to drain the oil from the crankcase.
6. Remove the oil filter cartridge with an oil filter wrench.

NOTE:
An oil filter wrench is available at a Yamaha dealer.



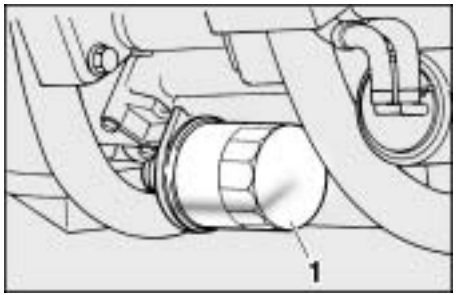
1. Engine oil drain bolt (crank case)

7. Apply a thin coat of engine oil to the O-ring of the new oil filter cartridge.

NOTE:
Make sure that the O-ring is properly seated.

8. Install the new oil filter cartridge with an oil filter wrench, and then tighten it to the specified torque with a torque wrench.

Tightening torque:
Oil filter cartridge:
12 ft·lb (17 m·kgf, 17 Nm)



1. Engine oil filter cartridge

9. Install the engine oil drain bolts, and then tighten them to the specified torque.

Tightening torque:
Engine oil drain bolt:
31 ft·lb (4.3 m·kgf, 43 Nm)

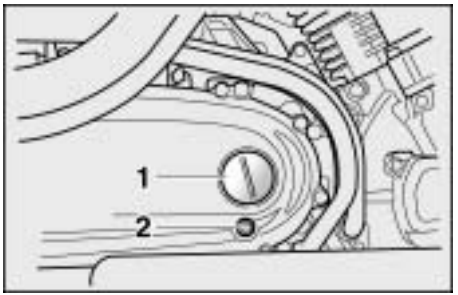
10. Pour only 2.6 US qt (2.2 Imp qt, 2.5 L) of the specified amount of recommended engine oil through the filler hole, insert the dipstick, and then tighten the oil filler cap.
11. Start the engine, rev it several times, and then turn it off.
12. Remove the engine oil filler cap, and then gradually fill the oil tank with the remaining oil quantity while regularly checking the oil level on the dipstick.

Recommended engine oil:
See page 8-1.
Oil quantity:
Without oil filter cartridge replacement:
3.9 US qt (3.3 Imp qt, 3.7 L)
With oil filter cartridge replacement:
4.3 US qt (3.6 Imp qt, 4.1 L)
Total amount (dry engine):
5.3 US qt (4.4 Imp qt, 5.0 L)

CAUTION:

- **In order to prevent clutch slippage (since the engine oil also lubricates the clutch), do not mix any chemical additives with the oil or use oils of a "CD" grade or higher. In addition, do not use oils labeled "ENERGY CONSERVING II" or higher.**
- **Make sure that no foreign material enters the crankcase.**

13. Install the engine oil filler cap.
14. Start the engine, and then let it idle for several minutes while checking it for oil leakage. If oil is leaking, immediately turn the engine off and check for the cause.
15. Turn the engine off, and then check the oil level and correct it if necessary.



1. Transfer case oil filler cap
2. Transfer case oil level check bolt

Transfer case oil

The transfer case oil level should be checked before each ride. In addition, the oil must be changed at the intervals specified in the periodic maintenance and lubrication chart.

To check the transfer case oil level

1. Place the motorcycle on a level surface and hold it in an upright position.

NOTE:

Make sure that the motorcycle is positioned straight up when checking the oil level. A slight tilt to the side can result in a false reading.

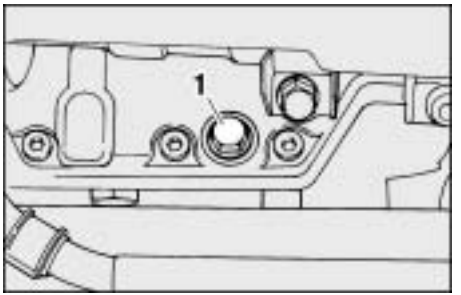
2. Remove the oil check bolt, and then check the oil level in the transfer case.

NOTE:

The oil should be at the brim of the check hole.

3. If the oil is below the brim of the check hole, remove the oil filler cap, add sufficient oil of the recommended type to raise it to the correct level, and then install the oil filler cap.
4. Install the oil check bolt, and then tighten it to the specified torque.

Tightening torque:
Transfer case oil check bolt:
5 ft·lb (0.75 m·kgf, 7.5 Nm)

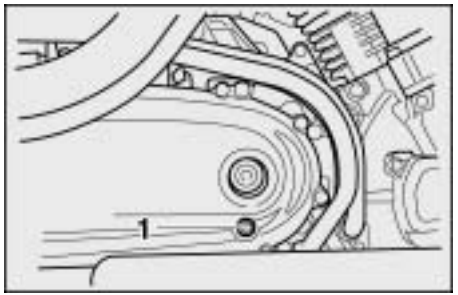


1. Transfer case oil drain bolt

To change the transfer case oil

1. Place an oil pan under the transfer case to collect the used oil.
2. Remove the drain bolt and the check bolt to drain the oil from the transfer case.
3. Install the drain bolt and the check bolt, and then tighten the drain bolt to the specified torque.

Tightening torque:
Transfer case oil drain bolt:
13 ft·lb (1.75 m·kgf, 17.5 Nm)



1. Transfer case oil level check hole

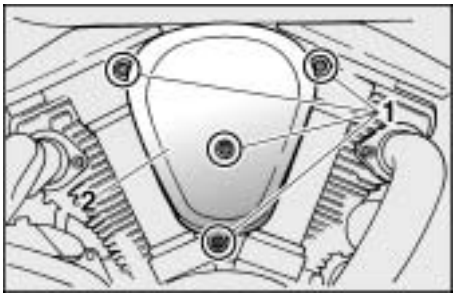
4. Remove the oil filler cap, add the specified amount of the recommended transfer case oil, and then install and tighten the oil filler cap.

Recommended transfer case oil:
See page 8-2.
Oil quantity:
0.42 US qt (0.35 Imp qt, 0.4 L)

CAUTION:

Make sure that no foreign material enters the transfer case.

5. Start the engine and let it idle for several minutes while checking the transfer case for oil leakage. If oil is leaking, immediately turn the engine off and check for the cause.

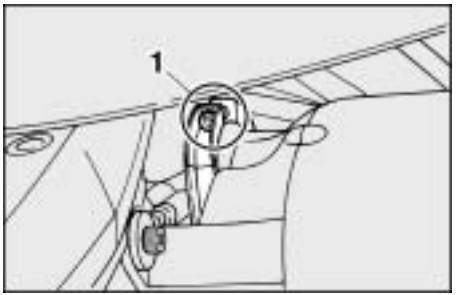


1. Bolt (× 4)
2. Air filter case

Cleaning the air filter element

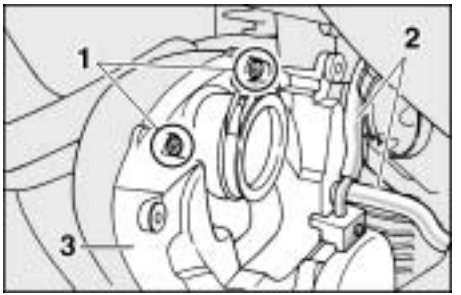
The air filter element should be cleaned at the intervals specified in the periodic maintenance and lubrication chart. Clean the air filter element more frequently if you are riding in unusually wet or dusty areas.

1. Remove the air filter case bolts.



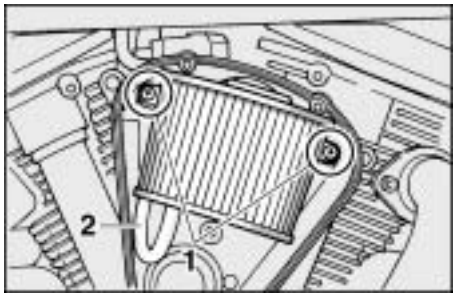
1. Air filter joint clamp screw

2. Loosen the air filter joint clamp screw, and then slightly pull the air filter case out.



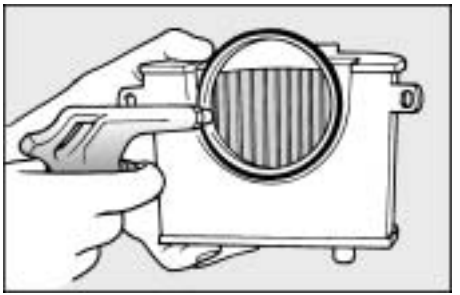
1. Screw (× 2)
2. Hose (× 2)
3. Air filter case cover

3. Remove the air filter case cover by removing the screws.
4. Disconnect the hoses shown.

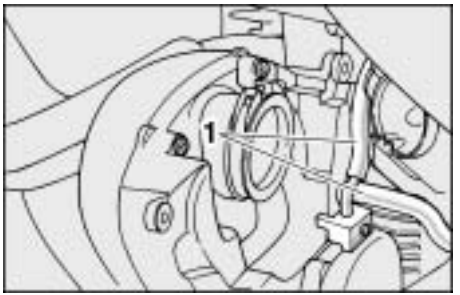


1. Screw (× 2)
2. Hose

5. Remove the air filter element by removing the screws, and then disconnect the hose shown.



6. Lightly tap the air filter element to remove most of the dust and dirt, and then blow the remaining dirt out with compressed air as shown. If the air filter element is damaged, replace it.
7. Install the air filter element by inserting it into the air filter case, then installing the screws, and then connect the hose shown.
8. Install the air filter case cover by installing the screws.

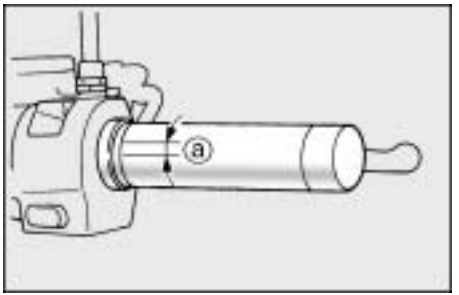


1. Hose (× 2)

9. Connect the hoses shown.
10. Install the air filter case by pushing it onto the air filter joint, and then tighten the air filter joint clamp screw.
11. Install the air filter case by installing the bolts.

Adjusting the carburetor

The carburetor is an important part of the engine and its emission control system, which requires very sophisticated adjustment. Therefore, carburetor adjustments should be left to Yamaha dealer, who has the necessary professional knowledge and experience.



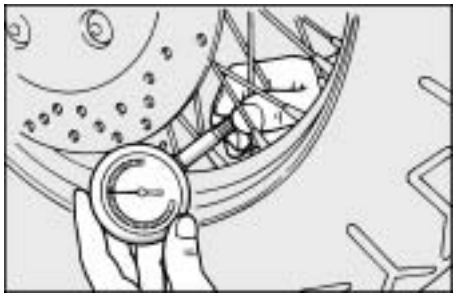
a. Throttle cable free play

Adjusting the throttle cable free play

The throttle cable free play should measure 0.16–0.24 in (4–6 mm) at the throttle grip. Periodically check the throttle cable free play and, if necessary, have a Yamaha dealer adjust it.

Adjusting the valve clearance

The valve clearance changes with use, resulting in improper air-fuel mixture and/or engine noise. To prevent this from occurring, the valve clearance must be adjusted by a Yamaha dealer at the intervals specified in the periodic maintenance and lubrication chart.



Tires

To ensure maximum performance, long service, and safe operation, note the following:

Tire air pressure

Always check and adjust the tire pressure before operating the motorcycle.

⚠ WARNING

Tire inflation pressure should be checked and adjusted when the temperature of the tire equals the ambient air temperature. Tire inflation pressure must be adjusted according to total weight of cargo, rider, passenger, and accessories (windshield, saddlebags, etc. if approved for this model).

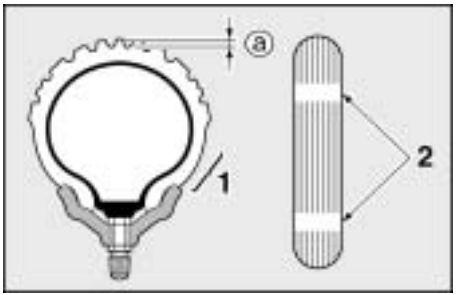
Tire air pressure (measured on cold tires)		
Load*	Front	Rear
Up to 198 lb (90 kg)	36 psi 2.50 kgf/cm^2 250 kPa	36 psi 2.50 kgf/cm^2 250 kPa
198 lb (90 kg)–maximum	36 psi 2.50 kgf/cm^2 250 kPa	41 psi 2.80 kgf/cm^2 280 kPa

Maximum load*	XV16A/ XV16AS: 432 lb (196 kgf) XV16AT: 399 lb (181 kgf)

* Total weight of rider, passenger, cargo and accessories

⚠ WARNING

Proper loading of your motorcycle is important for several characteristics of your motorcycle, such as handling, braking, performance and safety. Do not carry loosely packed items that can shift. Securely pack your heaviest items close to the center of the motorcycle, and distribute the weight evenly from side to side. Properly adjust the suspension for your load, and check the condition and pressure of your tires. NEVER OVERLOAD YOUR MOTORCYCLE. Make sure the total weight of the cargo, rider, passenger, and accessories (windshield, saddlebags, etc. if approved for this model) does not exceed the maximum load of the motorcycle. Operation of an overloaded motorcycle could cause tire damage, an accident, or even injury.



1. Tire sidewall
2. Tire wear indicator
a. Tire tread depth

Tire inspection

Always check the tires before operating the motorcycle. If a tire tread shows crosswise line (minimum tread depth), if the tire has a nail or glass fragments in it, or if the side wall is cracked, contact a Yamaha dealer immediately and have the tire replaced.

⚠ WARNING

After extensive tests, the tires mentioned below have been approved by Yamaha Motor Co., Ltd. for this model. No guarantee for handling characteristics can be given if tire combinations other than what is approved are used on this motorcycle. The front and rear tires should be of the same manufacture and design.

FRONT

Manufacturer	Size	Model
Dunlop	130/90-16 67H	D404FL
Dunlop	130/90-16 M/C 67H	D404FL
Bridgestone	130/90-16 67H	G703F
Bridgestone	130/90-16 M/C 67H	G703F

REAR

Manufacturer	Size	Model
Dunlop	150/80B-16 71H	D404
Dunlop	150/80B-16 M/C 71H	D404
Bridgestone	150/80B-16 71H	G702
Bridgestone	150/80B-16 M/C 71H	G702

Minimum tire tread depth (front and rear)	0.04 in (1.0 mm)

NOTE:

These limits may be different by regulation from country to country. If so, conform to the limits specified by the regulations of your own country.

⚠ WARNING

- **It is dangerous to ride with a worn-out tire. When a tire tread begins to show crosswise lines, have a Yamaha dealer replace the tire immediately.**
- **The replacement of all wheel- and brake-related parts, including the tires, should be left to a Yamaha dealer, who has the necessary professional knowledge and experience.**
- **It is not recommended to patch a punctured tube. If unavoidable, however, patch the tube very carefully and replace it as soon as possible with a high-quality product.**

Spoke wheels

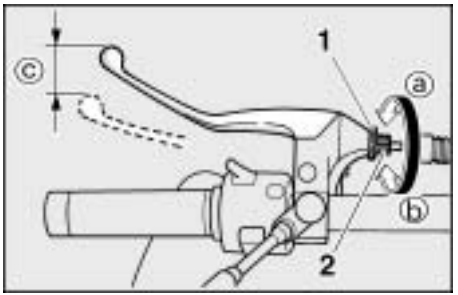
To maximize the performance, durability, and safe operation of your motorcycle, note the following points regarding the specified wheels.

- The wheel rims should be checked for cracks, bends or warpage, and the spokes for looseness or damage before each ride. If any damage is found, have a Yamaha dealer replace the wheel. Do not attempt even the smallest repair to the wheel. A deformed or cracked wheel must be replaced.
- The wheel should be balanced whenever either the tire or wheel has been changed or replaced. An unbalanced wheel can result in poor performance, adverse handling characteristics, and a shortened tire life.
- Ride at moderate speeds after changing a tire since the tire surface must first be "broken in" for it to develop its optimal characteristics.

Accessories and replacement parts

⚠ WARNING

This motorcycle is not designed to pull a trailer or to be attached to a sidecar. The accessories or replacement parts you choose for your motorcycle should be designed specifically for this model, and they must be securely mounted to maintain the inherent stability of the original design. Genuine Yamaha Parts and Accessories are designed and tested to be compatible with your motorcycle. Please consider Genuine Yamaha Parts and Accessories before making a purchase. Use of non-Yamaha-approved accessories or replacement parts may cause loss of handling stability and riding safety. Since Yamaha cannot control the quality of accessories or parts manufactured by other companies, Yamaha cannot be held liable for any consequences caused by the use of items which have not been approved by Yamaha.

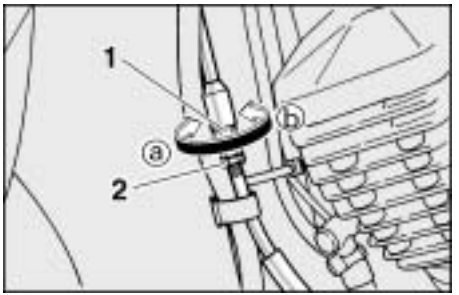


1. Locknut
2. Clutch lever free play adjusting bolt
c. Clutch lever free play

Adjusting the clutch lever free play

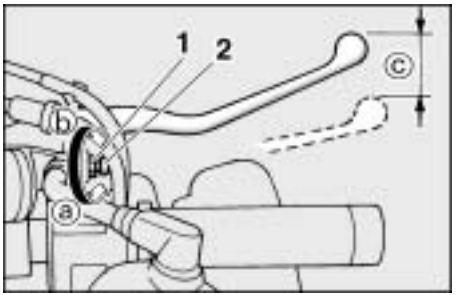
The clutch lever free play should measure 0.4–0.6 in (10–15 mm) as shown. Periodically check the clutch lever free play and, if necessary, adjust it as follows.

1. Loosen the locknut at the clutch lever.
2. To increase the clutch lever free play, turn the adjusting bolt in direction a . To decrease the clutch lever free play, turn the adjusting bolt in direction b .



1. Clutch lever free play adjusting nut
2. Locknut

3. If the specified clutch lever free play could be obtained as described above, tighten the locknut and skip the rest of the procedure, otherwise proceed as follows.
4. Fully turn the adjusting bolt at the clutch lever in direction a to loosen the clutch cable.
5. Loosen the locknut at the crankcase.
6. To increase the clutch lever free play, turn the adjusting nut in direction a . To decrease the clutch lever free play, turn the adjusting nut in direction b .
7. Tighten the locknut at the clutch lever and the crankcase.



1. Locknut
2. Brake lever free play adjusting bolt
c. Brake lever free play

Adjusting the brake lever free play

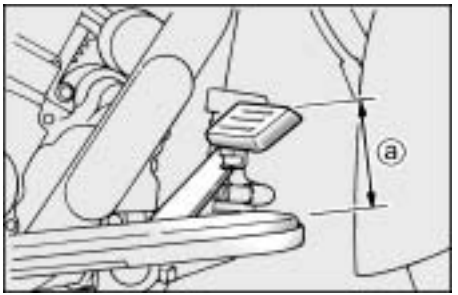
The brake lever free play should measure 0.08–0.2 in (2–5 mm) as shown. Periodically check the brake lever free play and, if necessary, adjust it as follows.

1. Loosen the locknut at the brake lever.
2. To increase the brake lever free play, turn the adjusting bolt in direction a . To decrease the brake lever free play, turn the adjusting bolt in direction b .

3. Tighten the locknut.

WARNING

- **After adjusting the brake lever free play, check the free play and make sure that the brake is working properly.**
- **A soft or spongy feeling in the brake lever can indicate the presence of air in the hydraulic system. If there is air in the hydraulic system, have a Yamaha dealer bleed the system before operating the motorcycle. Air in the hydraulic system will diminish the braking performance, which may result in loss of control and an accident.**



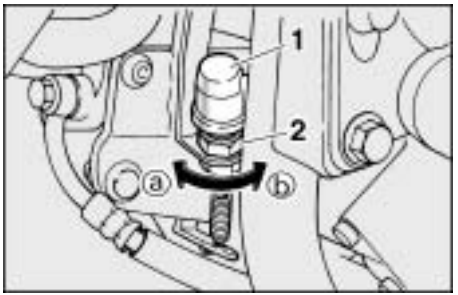
a. Distance between brake pedal and footrest

Adjusting the brake pedal position

The top of the brake pedal should be positioned approximately 3.9 in (100 mm) above the top of the footrest as shown. Periodically check the brake pedal position and, if necessary, have a Yamaha dealer adjust it.

WARNING

A soft or spongy feeling in the brake pedal can indicate the presence of air in the hydraulic system. If there is air in the hydraulic system, have a Yamaha dealer bleed the system before operating the motorcycle. Air in the hydraulic system will diminish the braking performance, which may result in loss of control and an accident.



1. Rear brake light switch
2. Rear brake light switch adjusting nut

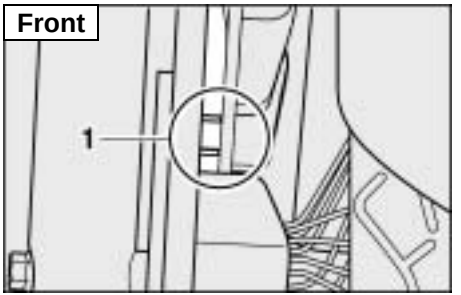
Adjusting the rear brake light switch

The rear brake light switch, which is activated by the brake pedal, is properly adjusted when the brake light comes on just before braking takes effect. If necessary, adjust the brake light switch as follows.

Turn the adjusting nut while holding the rear brake light switch in place. To make the brake light come on earlier, turn the adjusting nut in direction a . To make the brake light come on later, turn the adjusting nut in direction b .

Checking the front and rear brake pads

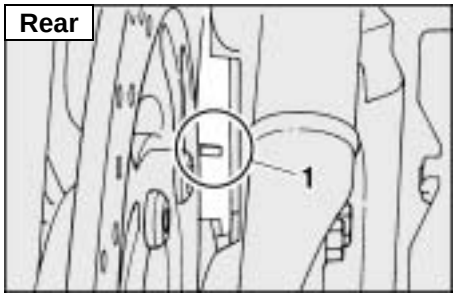
The front and rear brake pads must be checked for wear at the intervals specified in the periodic maintenance and lubrication chart.



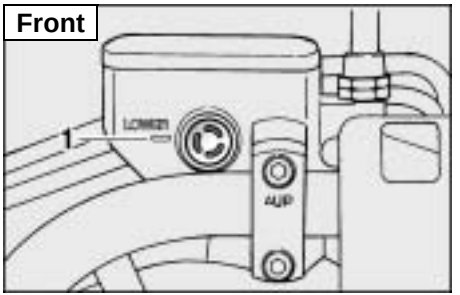
1. Brake pad wear indicator groove (× 2)

Front brake pads

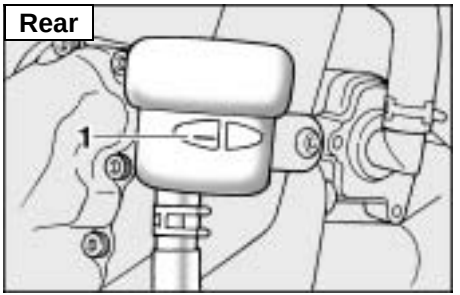
Each front brake pad is provided with wear indicator grooves, which allow you to check the brake pad wear without having to disassemble the brake. To check the brake pad wear, check the wear indicator grooves. If a brake pad has worn to the point that the wear indicator grooves have almost disappeared, have a Yamaha dealer replace the brake pads as a set.



1. Brake pad wear indicator groove



1. Minimum level mark



1. Minimum level mark

Rear brake pads

Each rear brake pad is provided with a wear indicator groove, which allows you to check the brake pad wear without having to disassemble the brake. To check the brake pad wear, check the wear indicator groove. If a brake pad has worn to the point that the wear indicator groove has almost disappeared, have a Yamaha dealer replace the brake pads as a set.

Checking the brake fluid level

Insufficient brake fluid may allow air to enter the brake system, possibly causing it to become ineffective.

Before riding, check that the brake fluid is above the minimum level mark and replenish if necessary. A low brake fluid level may indicate worn brake pads and/or brake system leakage. If the brake level is low, be sure to check the brake pads for wear and the brake system for leakage.

Observe these precautions:

- When checking the fluid level, make sure that the top of the brake fluid reservoir is level.
- Use only the recommended quality brake fluid, otherwise the rubber seals may deteriorate, causing leakage and poor braking performance.

Recommended brake fluid: DOT 4

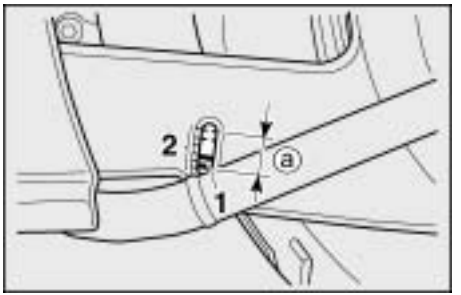
- Refill with the same type of brake fluid. Mixing fluids may result in a harmful chemical reaction and lead to poor braking performance.

- Be careful that water does not enter the brake fluid reservoir when refilling. Water will significantly lower the boiling point of the fluid and may result in vapor lock.
- Brake fluid may deteriorate painted surfaces or plastic parts. Always clean up spilled fluid immediately.
- As the brake pads wear, it is normal for the brake fluid level to gradually go down. However, if the brake fluid level goes down suddenly, have a Yamaha dealer check the cause.

Changing the brake fluid

Have a Yamaha dealer change the brake fluid at the intervals specified in the NOTE after the periodic maintenance and lubrication chart. In addition, have the oil seals of the master cylinders and calipers as well as the brake hoses replaced at the intervals listed below or whenever they are damaged or leaking.

- Oil seals: Replace every two years.
- Brake hoses: Replace every four years.



1. Drive belt
2. Marks

a. Drive belt slack

Drive belt slack

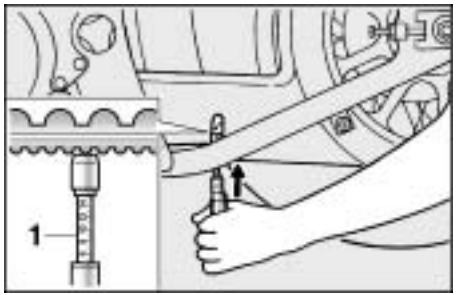
The drive belt slack should be checked before each ride and adjusted if necessary.

To check the drive belt slack

1. Place the motorcycle on a level surface and hold it in an upright position.
2. Note the current position of the drive belt using the marks near the check hole.

NOTE:

The marks near the drive belt check hole are 0.2 in (5 mm) apart.

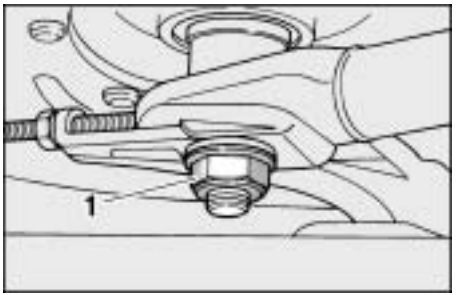


1. Belt tension gauge

3. Note the position of the drive belt with a force of 10 lb (4.5 kgf, 45 N) applied to the belt with a belt tension gauge as shown.
4. Calculate the drive belt slack by subtracting the measurement noted in step 2 from the measurement noted in step 3.

Drive belt slack:
0.3–0.5 in (7.5–13 mm)

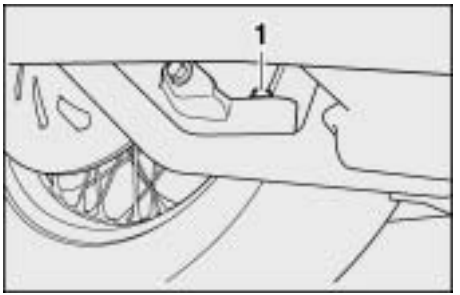
5. If the drive belt slack is incorrect, adjust it as follows.



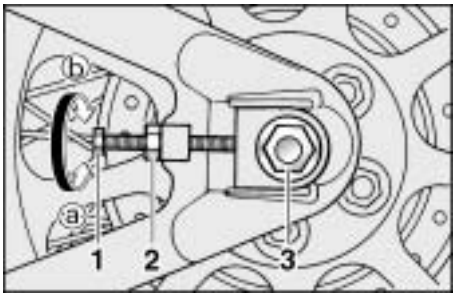
1. Wheel axle nut

To adjust the drive belt slack

1. Loosen the rear wheel axle nut and the brake caliper bracket bolt.



1. Brake caliper bracket bolt



1. Drive belt slack adjusting bolt (× 2)
2. Locknut (× 2)
3. Wheel axle

2. Loosen the drive belt puller locknut on each side of the swingarm.
3. To tighten the drive belt, turn the adjusting bolt on each side of the swingarm in direction a . To loosen the drive belt, turn the adjusting bolt on each side of the swingarm in direction b , and then push the rear wheel forward.

NOTE:
Turn each adjusting bolt the same amount for proper wheel alignment.

4. Tighten the locknuts.

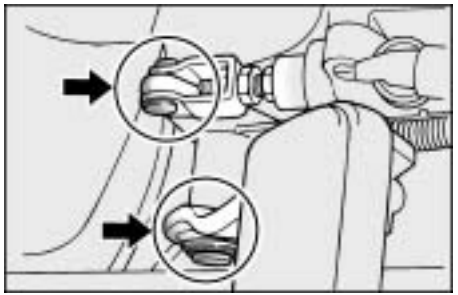
CAUTION:
Improper drive belt slack will overload the engine. Keep the drive belt slack within the specified range.

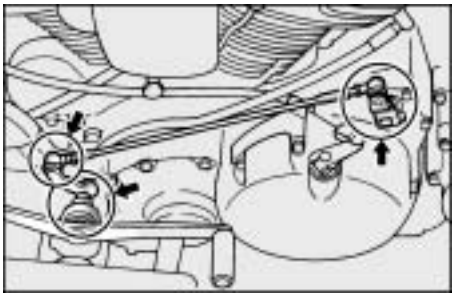
5. Tighten the axle nut and the brake caliper bracket bolt to the specified torques.

Tightening torques:
Axle nut:
108.5 ft·lb (15 m·kgf, 150 Nm)
Brake caliper bracket bolt:
34.7 ft·lb (4.8 m·kgf, 48 Nm)

Checking and lubricating the throttle grip and cable

The operation of the throttle grip should be checked before each ride. In addition, the cable should be lubricated or replaced at the intervals specified in the periodic maintenance chart.

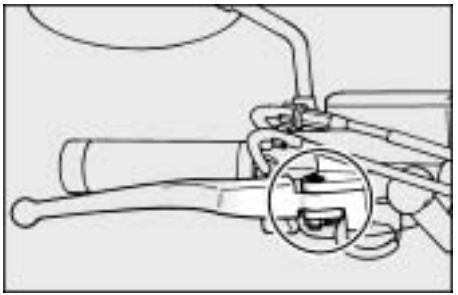


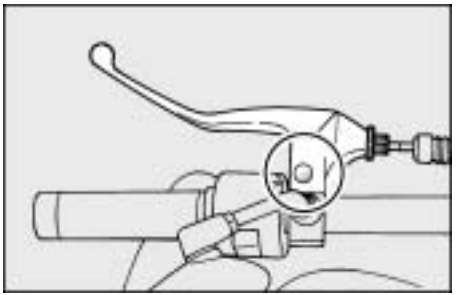


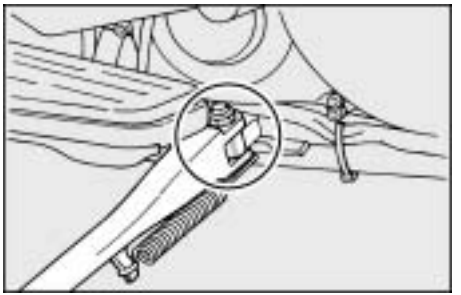
Checking and lubricating the brake and shift pedals

The operation of the brake and shift pedals should be checked before each ride, and the pedal pivots should be lubricated if necessary.

Recommended lubricant:
Lithium-soap-based grease
(all-purpose grease)







Checking and lubricating the brake and clutch levers

The operation of the brake and clutch levers should be checked before each ride, and the lever pivots should be lubricated if necessary.

Recommended lubricant:
Lithium-soap-based grease
(all-purpose grease)

Checking and lubricating the sidestand

The operation of the sidestand should be checked before each ride, and the sidestand pivot and metal-to-metal contact surfaces should be lubricated if necessary.

⚠ WARNING

If the sidestand does not move up and down smoothly, have a Yamaha dealer check or repair it.

Recommended lubricant:
Lithium-soap-based grease
(all-purpose grease)

Checking the front fork

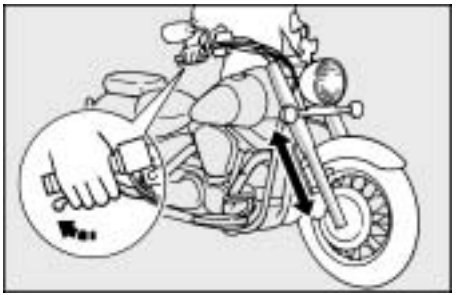
The condition and operation of the front fork must be checked as follows at the intervals specified in the periodic maintenance and lubrication chart.

To check the condition

⚠ WARNING

Securely support the motorcycle so that there is no danger of it falling over.

Check the inner tubes for scratches, damage and excessive oil leakage.



To check the operation

1. Place the motorcycle on a level surface and hold it in an upright position.
2. While applying the front brake, push down hard on the handlebars several times to check if the front fork compresses and rebounds smoothly.

CAUTION:

If any damage is found or the front fork does not operate smoothly, have a Yamaha dealer check or repair it.

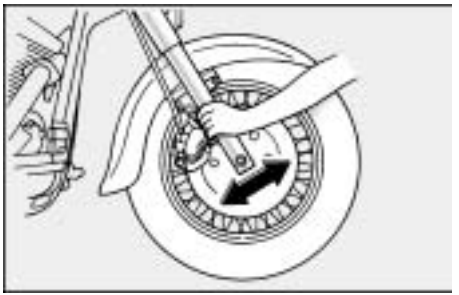
Checking the steering

Worn or loose steering bearings may cause danger. Therefore, the operation of the steering must be checked as follows at the intervals specified in the periodic maintenance and lubrication chart.

1. Place a stand under the engine to raise the front wheel off the ground.

⚠ WARNING

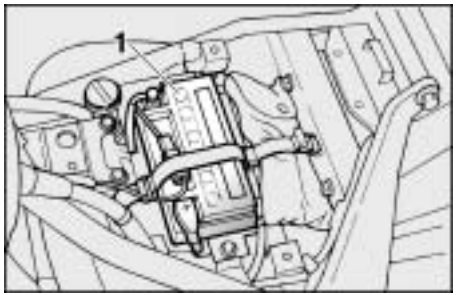
Securely support the motorcycle so that there is no danger of it falling over.



2. Hold the lower ends of the front fork legs and try to move them forward and backward. If any free play can be felt, have a Yamaha dealer check or repair the steering.

Checking the wheel bearings

The front and rear wheel bearings must be checked at the intervals specified in the periodic maintenance and lubrication chart. If there is play in the wheel hub or if the wheel does not turn smoothly, have a Yamaha dealer check the wheel bearings.



1. Battery

Battery

This motorcycle is equipped with a sealed-type (MF) battery, which does not require any maintenance. There is no need to check the electrolyte or to add distilled water.

CAUTION:

Never attempt to remove the battery cell seals, as this would permanently damage the battery.

⚠ WARNING

- **Electrolyte is poisonous and dangerous since it contains sulfuric acid, which causes severe burns. Avoid any contact with skin, eyes or clothing and always shield your eyes when working near batteries. In case of contact, administer the following FIRST AID.**
  - **EXTERNAL: Flush with plenty of water.**
  - **INTERNAL: Drink large quantities of water or milk and immediately call a physician.**
  - **EYES: Flush with water for 15 minutes and seek prompt medical attention.**
- **Batteries produce explosive hydrogen gas. Therefore, keep sparks, flames, cigarettes, etc., away from the battery and provide sufficient ventilation when charging it in an enclosed space.**
- **KEEP THIS AND ALL BATTERIES OUT OF THE REACH OF CHILDREN.**

To charge the battery

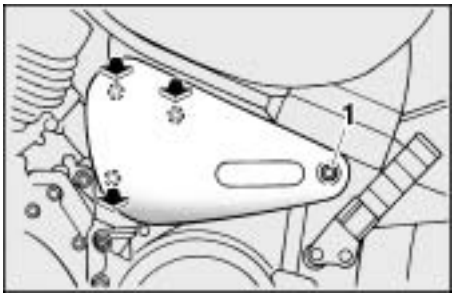
Have a Yamaha dealer charge the battery as soon as possible if it seems to have discharged. Keep in mind that the battery tends to discharge more quickly if the motorcycle is equipped with optional electrical accessories.

To store the battery

1. If the motorcycle will not be used for more than one month, remove the battery, fully charge it, and then place it in a cool, dry place.
2. If the battery will be stored for more than two months, check it at least once a month and fully charge it if necessary.
3. Fully charge the battery before installation.
4. After installation, make sure that the battery leads are properly connected to the battery terminals.

CAUTION:

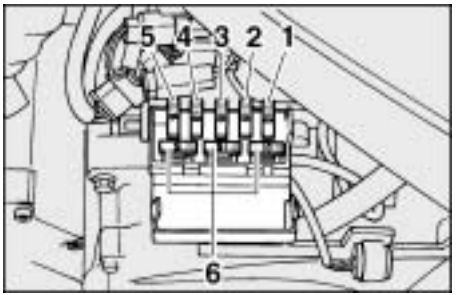
- **Always keep the battery charged. Storing a discharged battery can cause permanent battery damage.**
- **To charge a sealed-type (MF) battery, a special (constant-voltage) battery charger is required. Using a conventional battery charger will damage the battery. If you do not have access to a sealed-type (MF) battery charger, have a Yamaha dealer charge your battery.**



1. Bolt

Replacing the fuses

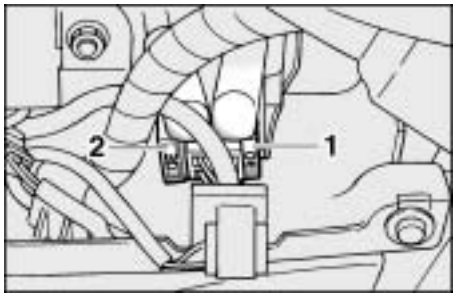
The main fuse and the fuse box, which contains the fuses for the individual circuits, are located behind panel A. (See page 6-7 for panel removal and installation procedures.)



1. Signaling system fuse
2. Ignition fuse
3. Headlight fuse
4. Carburetor heater fuse
5. Odometer fuse
6. Spare fuse (× 3)

If a fuse is blown, replace it as follows.

1. Turn the key to “OFF” and turn off the electrical circuit in question.
2. Remove the blown fuse, and then install a new fuse of the specified amperage.



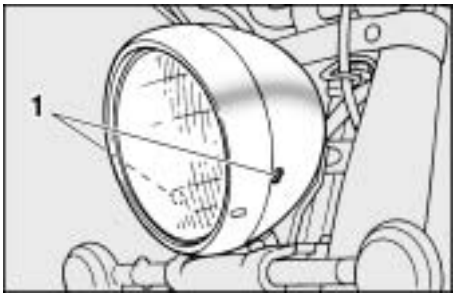
1. Main fuse
2. Spare main fuse

Specified fuses:	
Main fuse:	30 A
Headlight fuse:	15 A
Signaling system fuse:	10 A
Ignition fuse:	15 A
Odometer fuse:	5 A
Carburetor heater fuse:	10 A

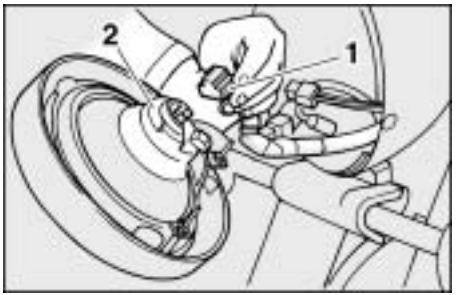
CAUTION:

Do not use a fuse of a higher amperage rating than recommended to avoid causing extensive damage to the electrical system and possibly a fire.

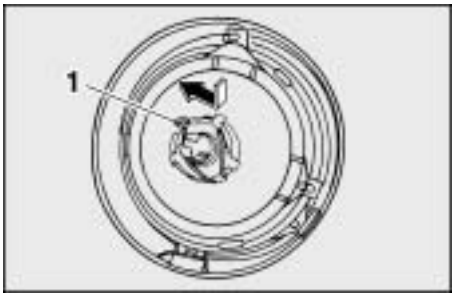
3. Turn the key to “ON” and turn on the electrical circuit in question to check if the device operates.
4. If the fuse immediately blows again, have a Yamaha dealer check the electrical system.



1. Screw (× 2)



1. Headlight coupler
2. Headlight bulb cover

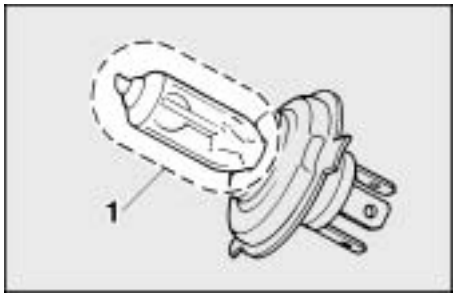


1. Headlight bulb holder

Replacing the headlight bulb

This motorcycle is equipped with a quartz bulb headlight. If the headlight bulb burns out, replace it as follows.

1. Remove the headlight unit by removing the screws.
2. Disconnect the headlight coupler, and then remove the bulb cover.
3. Unhook the headlight bulb holder, and then remove the defective bulb.



1. Do not touch this area.

⚠ WARNING

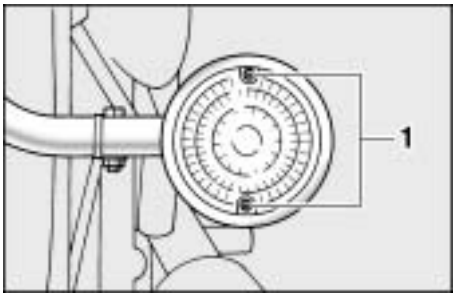
Headlight bulbs get very hot. Therefore, keep flammable products away from a lit headlight bulb, and do not touch the bulb until it has cooled down.

4. Place a new headlight bulb into position, and then secure it with the bulb holder.

CAUTION:

Do not touch the glass part of the headlight bulb to keep it free from oil, otherwise the transparency of the glass, the luminosity of the bulb, and the bulb life will be adversely affected. Thoroughly clean off any dirt and fingerprints on the headlight bulb using a cloth moistened with alcohol or thinner.

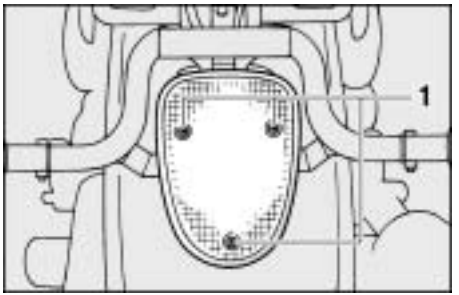
5. Install the headlight bulb cover, and then connect the coupler.
6. Install the headlight unit by installing the screws.
7. Have a Yamaha dealer adjust the headlight beam if necessary.



1. Screw (× 2)

Replacing a turn signal light bulb or the tail/brake light bulb

1. Remove the lens by removing the screws.
2. Remove the defective bulb by pushing it in and turning it counterclockwise.



1. Screw (× 3)

3. Insert a new bulb into the socket, push it in, and then turn it clockwise until it stops.
4. Install the lens by installing the screws.

CAUTION:

Do not overtighten the screws, otherwise the lens may break.

Supporting the motorcycle

Since this model is not equipped with a centerstand, follow these precautions when removing the front and rear wheel or performing other maintenance requiring the motorcycle to stand upright. Check that the motorcycle is in a stable and level position before starting any maintenance. A strong wooden box can be placed under the engine for added stability.

To service the front wheel

1. Stabilize the rear of the motorcycle by using a motorcycle stand or, if an additional motorcycle stand is not available, by placing a jack under the frame in front of the rear wheel.
2. Raise the front wheel off the ground by using a motorcycle stand.

To service the rear wheel

Raise the rear wheel off the ground by using a motorcycle stand or, if a motorcycle stand is not available, by placing a jack either under each side of the frame in front of the rear wheel or under each side of the swingarm.

Troubleshooting

Although Yamaha motorcycles receive a thorough inspection before shipment from the factory, trouble may occur during operation. Any problem in the fuel, compression, or ignition systems, for example, can cause poor starting and loss of power.

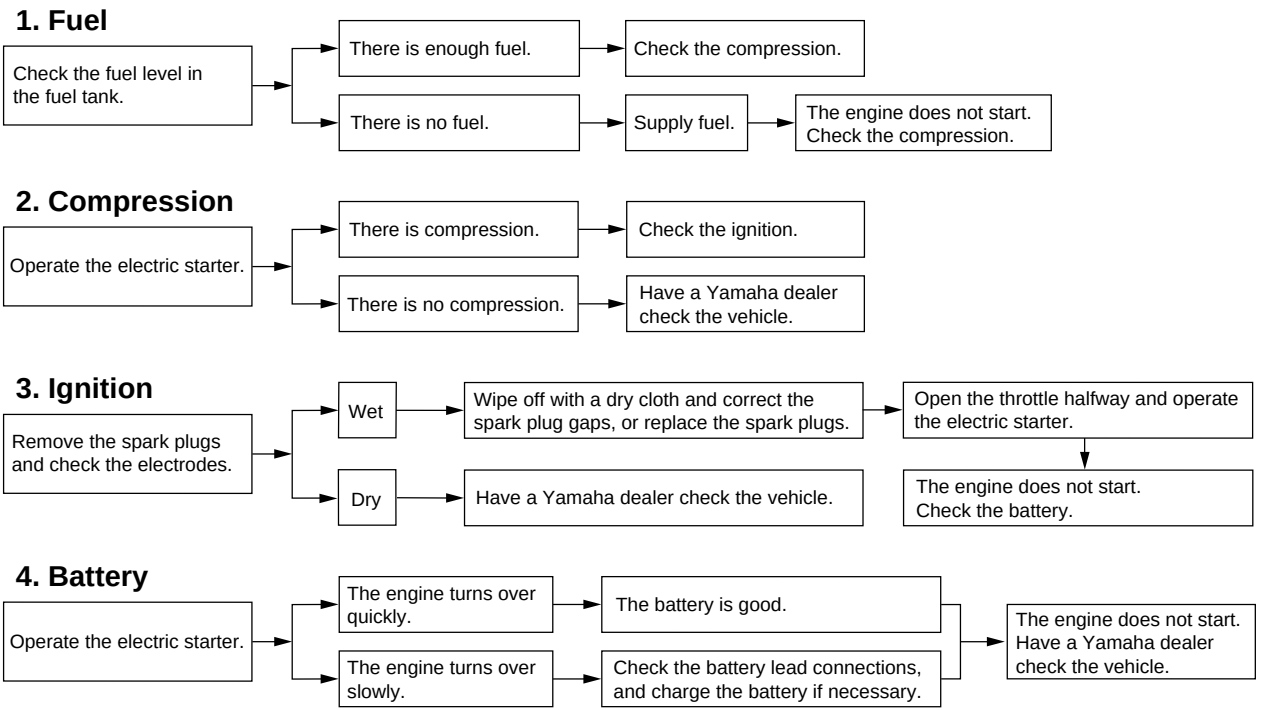
The following troubleshooting chart represents a quick and easy procedure for checking these vital systems yourself. However, should your motorcycle require any repair, take it to a Yamaha dealer, whose skilled technicians have the necessary tools, experience, and know-how to service the motorcycle properly.

Use only genuine Yamaha replacement parts. Imitation parts may look like Yamaha parts, but they are often inferior, have a shorter service life and can lead to expensive repair bills.

Troubleshooting chart

WARNING

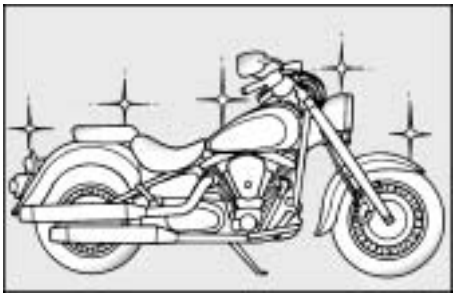
Keep away open flames and do not smoke while checking or working on the fuel system.


1. Fuel
Check the fuel level in the fuel tank.
There is enough fuel.
Check the compression.
There is no fuel.
Supply fuel.
The engine does not start. Check the compression.
2. Compression
Operate the electric starter.
There is compression.
Check the ignition.
There is no compression.
Have a Yamaha dealer check the vehicle.
3. Ignition
Remove the spark plugs and check the electrodes.
Wet
Wipe off with a dry cloth and correct the spark plug gaps, or replace the spark plugs.
Open the throttle halfway and operate the electric starter.
The engine does not start. Check the battery.
Dry
Have a Yamaha dealer check the vehicle.
4. Battery
Operate the electric starter.
The engine turns over quickly.
The battery is good.
The engine does not start. Have a Yamaha dealer check the vehicle.
The engine turns over slowly.
Check the battery lead connections, and charge the battery if necessary.

MOTORCYCLE CARE AND STORAGE

Care 7-1
Storage 7-5

MOTORCYCLE CARE AND STORAGE



Care

While the open design of a motorcycle reveals the attractiveness of the technology, it also makes it more vulnerable. Rust and corrosion can develop even if high-quality components are used. A rusty exhaust pipe may go unnoticed on a car, however, it detracts from the overall appearance of a motorcycle. Frequent and proper care does not only comply with the terms of the warranty, but it will also keep your motorcycle looking good, extend its life and optimize its performance.

Before cleaning

1. Cover the muffler outlets with plastic bags after the engine has cooled down.
2. Make sure that all caps and covers as well as all electrical couplers and connectors, including the spark plug caps, are tightly installed.
3. Remove extremely stubborn dirt, like oil burnt onto the crankcase, with a degreasing agent and a brush, but never apply such products onto seals, gaskets, the drive belt and wheel axles. Always rinse the dirt and degreaser off with water.

Cleaning

CAUTION:

- **Avoid using strong acidic wheel cleaners, especially on spoked wheels. If such products are used on hard-to-remove dirt, do not leave the cleaner on the affected area any longer than instructed. Also, thoroughly rinse the area off with water, immediately dry it, and then apply a corrosion protection spray.**
- **Improper cleaning can damage windshields, cowlings, panels and other plastic parts. Use only a soft, clean cloth or sponge with mild detergent and water to clean plastic.**
- **Do not use any harsh chemical products on plastic parts. Be sure to avoid using cloths or sponges which have been in contact with strong or abrasive cleaning products, solvent or**

thinner, fuel (gasoline), rust removers or inhibitors, brake fluid, antifreeze or electrolyte.

- **Do not use high-pressure washers or steam-jet cleaners since they cause water seepage and deterioration in the following areas: seals (of wheel and swingarm bearings, fork and brakes), electric components (couplers, connectors, instruments, switches and lights), breather hoses and vents.**
- **For motorcycles equipped with a windshield: Do not use strong cleaners or hard sponges as they will cause dulling or scratching. Some cleaning compounds for plastic may leave scratches on the windshield. Test the product on a small hidden part of the windshield to make sure that it does not leave any marks. If the windshield is scratched, use a quality plastic polishing compound after washing.**

After normal use

Remove dirt with warm water, a mild detergent, and a soft, clean sponge, and then rinse thoroughly with clean water. Use a toothbrush or bottlebrush for hard-to-reach areas. Stubborn dirt and insects will come off more easily if the area is covered with a wet cloth for a few minutes before cleaning.

After riding in the rain, near the sea or on salt-sprayed roads

Since sea salt or salt sprayed on roads during winter are extremely corrosive in combination with water, carry out the following steps after each ride in the rain, near the sea or on salt-sprayed roads.

NOTE:

Salt sprayed on roads in the winter may remain well into spring.

1. Clean the motorcycle with cold water and a mild detergent, after the engine has cooled down.

CAUTION:

Do not use warm water since it increases the corrosive action of the salt.

2. After drying the motorcycle, apply a corrosion protection spray on all metal, including chrome- and nickel-plated, surfaces to prevent corrosion.

Windshield cleaning (for XV16AT only)

Avoid using any alkaline or strong acid cleaner, gasoline, brake fluid, or any other solvent. Clean the windshield with a cloth or sponge dampened with a neutral detergent, and after cleaning, thoroughly wash it off with water. For additional cleaning, use Yamaha Windshield Cleaner or other quality cleaner. Some cleaning compounds for plastics may leave scratches on surfaces of the

windshield. Before using them, make a test by polishing an area which does not affect your visibility.

After cleaning

1. Dry the motorcycle with a chamois or an absorbing cloth.
2. Use a chrome polish to shine chrome, aluminum and stainless-steel parts, including the exhaust system. (Even the thermally induced discoloring of stainless-steel exhaust systems can be removed through polishing.)
3. To prevent corrosion, it is recommended to apply a corrosion protection spray on all metal, including chrome- and nickel-plated, surfaces.
4. Use spray oil as a universal cleaner to remove any remaining dirt.
5. Touch up minor paint damage caused by stones, etc.
6. Wax all painted and chrome-plated surfaces. Avoid combination cleaner waxes, many of which contain abrasives that may mar the paint or protective finish.
7. Let the motorcycle dry completely before storing or covering it.

⚠ WARNING

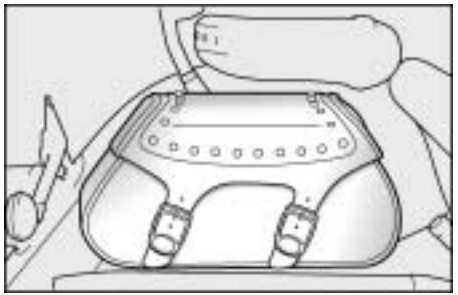
- **Make sure that there is no oil or wax on the brakes or tires. If necessary, clean the brake discs and brake linings with a regular brake disc cleaner or acetone, and wash the tires with warm water and a mild detergent.**
- **Before operating the motorcycle test its braking performance and cornering behavior.**

CAUTION:

- **Apply spray oil and wax sparingly and make sure to wipe off any excess.**
- **Never apply oil or wax to the drive belt.**
- **Never apply oil or wax to any rubber and plastic parts, but treat them with a suitable care product.**
- **Avoid using abrasive polishing compounds as they will wear away the paint.**

NOTE:

Consult a Yamaha dealer for advice on what products to use.

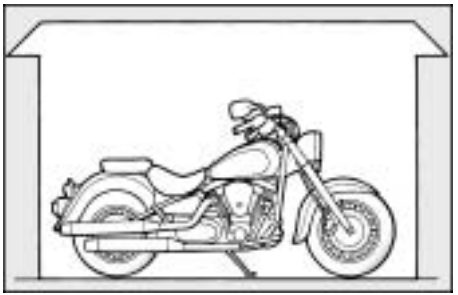


Saddlebag cleaning and care (for XV16AT only)

Clean the saddlebag on each side using a high-quality saddle soap. Rub the surface of the soap using a damp cloth or sponge to produce a lather, and then apply it to the surface of the saddlebags. Allow the lather to dry, and then polish the saddlebags with a soft cloth.

If the saddlebags have been exposed to severe weather conditions and have become faded, or been scuffed, use a fine boot creme to return the leather to its original rich, even color.

Exposure to the elements can dry out the leather over time. Therefore, an occasional application of a good quality mink oil is recommended to restore the leather and lift its water resistance. Make sure that the saddlebags are clean and dry before applying the mink oil. Using a soft cloth or a dauber, work a thin coat of mink oil into the leather surface of the saddlebags. Wipe off any excess oil immediately and allow the saddlebags to dry for several hours.



Storage

Short-term

Always store your motorcycle in a cool, dry place and, if necessary, protect it against dust with a porous cover.

CAUTION:

- **Storing the motorcycle in a poorly ventilated room or covering it with a tarp, while it is still wet, will allow water and humidity to seep in and cause rust.**
- **To prevent corrosion, avoid damp cellars, stables (because of the presence of ammonia) and areas where strong chemicals are stored.**

Long-term

Before storing your motorcycle for several months:

1. Follow all the instructions in the "Care" section of this chapter.
2. For motorcycles equipped with a fuel cock that has an "OFF" position: Turn the fuel cock lever to "OFF".
3. Drain the carburetor float chambers by loosening the drain bolts; this will prevent fuel deposits from building up. Pour the drained fuel into the fuel tank.
4. Fill up the fuel tank and add fuel stabilizer (if available) to prevent the fuel tank from rusting and the fuel from deteriorating.
5. Perform the following steps to protect the cylinders, piston rings, etc. from corrosion.
   a. Remove the spark plug caps and spark plugs.
   b. Pour a teaspoonful of engine oil into each spark plug bore.
   c. Install the spark plug caps onto the spark plugs, and then place the spark plugs on the cylinder head so that the electrodes are grounded. (This will limit sparking during the next step.)
   d. Turn the engine over several times with the starter. (This will coat the cylinder walls with oil.)
   e. Remove the spark plug caps from the spark plugs, and then install the spark plugs and the spark plug caps.

⚠ WARNING

To prevent damage or injury from sparking, make sure to ground the spark plug electrodes while turning the engine over.

6. Lubricate all control cables and the pivoting points of all levers and pedals as well as of the sidestand/ centerstand.
7. Check and, if necessary, correct the tire air pressure, and then lift the motorcycle so that both of its wheels are off the ground. Alternatively, turn the wheels a little every month in order to prevent the tires from becoming degraded in one spot.
8. Cover the muffler outlets with plastic bags to prevent moisture from entering them.
9. Remove the battery and fully charge it. Store it in a cool, dry place and charge it once a month. Do not store the battery in an excessively cold or warm place (less than 30 °F [0 °C] or more than 90 °F [30 °C]). For more information on storing the battery, see page 6-32.

NOTE:
Make any necessary repairs before storing the motorcycle.

Specifications 8-1

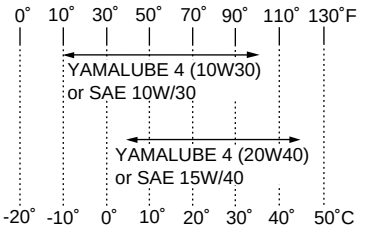
SPECIFICATIONS

Specifications

Model	**XV16A/AS/AT**
Dimensions	
Overall length	98.4 in (2,500 mm)
Overall width	38.6 in (980 mm)
Overall height	
XV16A	44.9 in (1,140 mm)
XV16AT	59.1 in (1,500 mm)
Seat height	28.0 in (710 mm)
Wheelbase	66.3 in (1,685 mm)
Ground clearance	5.7 in (145 mm)
Minimum turning radius	126.0 in (3,200 mm)
Basic weight (with oil and full fuel tank)	
XV16A/XV16AS	732 lb (332 kgf)
XV16AT	765 lb (347 kgf)
Engine	
Engine type	Air-cooled 4-stroke, OHV
Cylinder arrangement	V-type 2-cylinder
Displacement	1,602 cm^3
Bore × Stroke	3.74 × 4.45 in (95 × 113 mm)
Compression ratio	8.3:1
Starting system	Electric starter
Lubrication system	Dry sump

Engine oil

Type



Recommended engine oil classification	API Service SE, SF, SG type or higher

CAUTION:

Be sure to use motor oils that do not contain anti-friction modifiers. Passenger car motor oils (often labeled "ENERGY CONSERVING II") contain anti-friction additives which will cause clutch and/or starter clutch slippage, resulting in reduced component life and poor engine performance.

Quantity

Without oil filter cartridge replacement	3.9 US qt (3.3 lmp qt, 3.7 L)
With oil filter cartridge replacement	4.3 US qt (3.6 lmp qt, 4.1 L)
Total amount (dry engine)	5.3 US qt (4.4 lmp qt, 5.0 L)

Transfer case oil	
Type	SAE80API “GL-4” Hypoid Gear Oil
Quantity	0.42 US qt (0.35 lmp qt, 0.4 L)
Air filter	Dry type element
Fuel	
Type	UNLEADED GASOLINE ONLY
Fuel tank capacity	5.3 US gal (4.4 lmp gal, 20 L)
Reserve amount	0.9 US gal (0.8 lmp gal, 3.5 L)
Carburetor	
Manufacturer	MIKUNI
Model × quantity	BSR40 × 1
Spark plug	
Manufacturer/model	NGK / DPR7EA-9 or DENSO / X22EPR-U9
Gap	0.03–0.04 in (0.8–0.9 mm)
Clutch type	Wet, multiple-disc
Transmission	
Primary reduction system	Spur gear
Primary reduction ratio	1.532
Secondary reduction system	Belt
Secondary reduction ratio	2.320
Transmission type	Constant mesh 5-speed
Operation	Left foot

Gear ratio		
	1st	2.438
	2nd	1.579
	3rd	1.160
	4th	0.906
	5th	0.750
Chassis		
Frame type		Double cradle
Caster angle		32°
Trail		5.6 in (142 mm)
Tire		
Front		
	Type	Tube tire
	Size	130/90-16 67H
		130/90-16 M/C 67H
	Manufacturer/ model	Dunlop / D404FL
		Bridgestone / G703F
Rear		
	Type	Tube tire
	Size	150/80B-16 71H
		150/80B-16 M/C 71H
	Manufacturer/ model	Dunlop / D404
		Bridgestone / G702

Maximum load*	
XV16A/XV16AS	432 lb (196 kgf)
XV16AT	399 lb (181 kgf)
Tire air pressure (measured on cold tires)	
Up to 198 lb (90 kg)*	
Front	36 psi (2.50 kgf/cm^2, 250 kPa)
Rear	36 psi (2.50 kgf/cm^2, 250 kPa)
198 lb (90 kg)–maximum*	
Front	36 psi (2.50 kgf/cm^2, 250 kPa)
Rear	41 psi (2.80 kgf/cm^2, 280 kPa)

* Total weight of rider, passenger, cargo and accessories

Wheels

Front		
	Type	Spoke wheel
	Size	16 × MT 3.00
		16 M/C × MT 3.00
Rear		
	Type	Spoke wheel
	Size	16 × MT 3.50
		16 M/C × MT 3.50

Brakes

Front		
	Type	Dual disc brake
	Operation	Right hand
	Fluid	DOT 4
Rear		
	Type	Single disc brake
	Operation	Right foot
	Fluid	DOT 4

Suspension

Front	Telescopic fork
Rear	Swingarm (link suspension)

Spring/Shock absorber

Front	Coil spring / oil damper
Rear	Coil spring / gas-oil damper

Wheel travel

Front	5.5 in (140 mm)
Rear	4.3 in (110 mm)

Electrical

Ignition system		Transistorized coil ignition (digital)
Charging system		
	Type	A.C. magneto
	Standard output	14 V, 21 A @ 5,000 r/min

Battery	
Type	YTX20L-BS
Voltage, capacity	12 V, 18 Ah
Headlight type	Quartz bulb (halogen)
Bulb voltage, wattage × quantity	
Headlight	12 V, 60/55 W × 1
Tail/brake light	12 V, 8/27 W × 1
Front turn signal / Front position light	12 V, 27/8 W × 2
Rear turn signal light	12 V, 27 W × 2
Meter lighting	14 V, 0.6 W × 4
Neutral indicator light	12 V, 1 W × 1
High beam indicator light	12 V, 1 W × 1
Turn indicator light	12 V, 1 W × 1
Fuel level warning light	LED × 1
Engine trouble warning light	LED × 1
Fuses	
Main fuse	30 A
Ignition fuse	15 A
Signaling system fuse	10 A
Headlight fuse	15 A
Carburetor heater fuse	10 A
Odometer fuse	5 A

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CONSUMER INFORMATION

Identification numbers

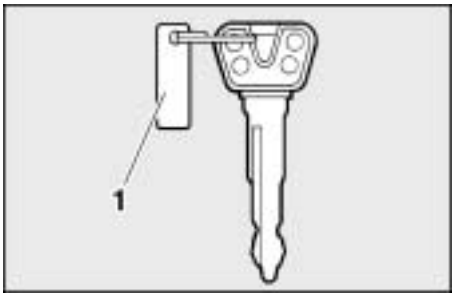
Record the key identification number, vehicle identification number and model label information in the spaces provided below for assistance when ordering spare parts from a Yamaha dealer or for reference in case the vehicle is stolen.

1. KEY IDENTIFICATION NUMBER:

2. VEHICLE IDENTIFICATION NUMBER:

3. MODEL LABEL INFORMATION:

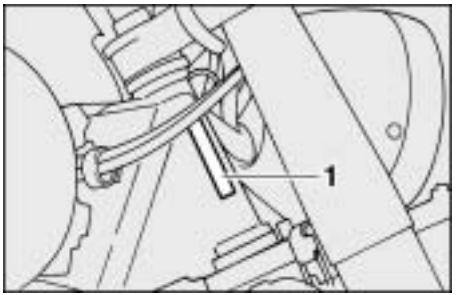
○
●



1. Key identification number

Key identification number

The key identification number is stamped into the key tag. Record this number in the space provided and use it for reference when ordering a new key.



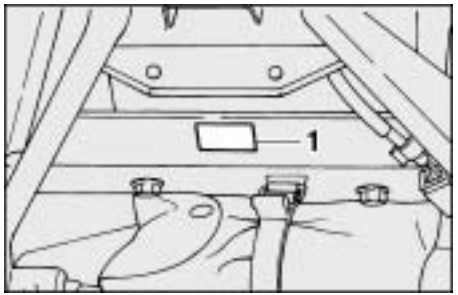
1. Vehicle identification number

Vehicle identification number

The vehicle identification number is stamped into the steering head pipe. Record this number in the space provided.

NOTE:

The vehicle identification number is used to identify your motorcycle and may be used to register your motorcycle with the licensing authority in your area.



1. Model label

Model label

The model label is affixed to the frame under the rider seat. (See page 3-11 for rider seat removal and installation procedures.) Record the information on this label in the space provided. This information will be needed when ordering spare parts from a Yamaha dealer.

CONSUMER INFORMATION

Reporting safety defects

If you believe that your vehicle has a defect which could cause a crash or could cause injury or death, you should immediately inform the National Highway Traffic Safety Administration (NHTSA) in addition to notifying Yamaha Motor Corporation, U.S.A. If NHTSA receives similar complaints, it may open an investigation, and if it finds that a safety defect exists in a group of vehicles, it may order a recall and remedy campaign. However, NHTSA cannot become involved in individual problems between you, your dealer, or Yamaha Motor Corporation, U.S.A.

To contact NHTSA, you may either call the Auto Safety Hotline toll-free at 1-800-424-9393 (or 366-0123 in Washington, D.C. area) or write to: NHTSA, U.S. Department of Transportation, Washington, D.C. 20590. You can also obtain other information about motor vehicle safety from the Hotline.

Motorcycle noise regulation

TAMPERING WITH NOISE CONTROL SYSTEM PROHIBITED:

Federal law prohibits the following acts or the causing thereof: (1) The removal or rendering inoperative by any person other than for purposes of maintenance, repair, or replacement of any device or element of design incorporated into any new vehicle for the purpose of noise control prior to its sale or delivery to the ultimate purchaser or while it is in use or (2) the use of the vehicle after such device or element of design has been removed or rendered inoperative by any person.

“AMONG THOSE ACTS PRESUMED TO CONSTITUTE TAMPERING ARE THE ACTS LISTED BELOW”.

These acts include tampering with the following systems; i.e., modification, removal, etc.

Exhaust system	Muffler Exhaust pipe Silencer
Intake system	Air cleaner case Air cleaner element Intake duct

Maintenance record

Copies of work orders and/or receipts for parts purchased and installed on your motorcycle will be required to document that maintenance has been completed in accordance with the emissions warranty. The chart below is printed only as a reminder that maintenance work is required. It is not acceptable proof of maintenance work.

Maintenance interval	Date of service	Mileage	Servicing dealer name and address	Remarks
600 mi (1,000 km) or 1 month				
4,000 mi (7,000 km) or 6 months				
8,000 mi (13,000 km) or 12 months				
12,000 mi (19,000 km) or 18 months				
16,000 mi (25,000 km) or 24 months				
20,000 mi (31,000 km) or 30 months				
24,000 mi (37,000 km) or 36 months				

Maintenance interval	Date of service	Mileage	Servicing dealer name and address	Remarks
28,000 mi (43,000 km) or 42 months				
32,000 mi (49,000 km) or 48 months				
36,000 mi (55,000 km) or 54 months				
40,000 mi (61,000 km) or 60 months				

YAMAHA MOTOR CORPORATION, U.S.A. STREET AND ENDURO MOTORCYCLE LIMITED WARRANTY

Yamaha Motor Corporation, U.S.A. hereby warrants each new model Yamaha motorcycle will be free from defects in material and workmanship for the period of time stated herein, subject to certain stated limitations.

THE PERIOD OF WARRANTY for Yamaha motorcycles originally equipped with headlight, stoplight, and turn signals shall be one (1) year from the date of purchase, with no mileage limitation.

MODELS EXCLUDED FROM WARRANTY include those used for non-Yamaha-authorized renting, leasing, or other commercial purposes, and TZ models.

DURING THE PERIOD OF WARRANTY any authorized Yamaha motorcycle dealer will, free of charge, repair or replace any part adjudged defective by Yamaha due to faulty workmanship or material from the factory. Parts used in warranty repairs will be warranted for the balance of the product's warranty period. All parts replaced under warranty become property of Yamaha Motor Corp. U.S.A.

GENERAL EXCLUSIONS from this warranty shall include any failures caused by:

a. Competition or racing use.
b. Installation of parts or accessories that are not qualitatively equivalent to genuine Yamaha parts.
c. Abnormal strain, neglect, or abuse.
d. Lack of proper maintenance.
e. Accident or collision damage.
f. Modification to original parts.

SPECIFIC EXCLUSIONS from this warranty shall include parts replaced due to normal wear or routine maintenance.

THE CUSTOMER'S RESPONSIBILITY under this warranty shall be to:

1. Operate and maintain the motorcycle as specified in the appropriate Owner's Manual, and
2. Give notice to an authorized Yamaha motorcycle dealer of any and all apparent defects within ten (10) days after discovery, and make the machine available at that time for inspection and repairs at such dealer's place of business.

WARRANTY TRANSFER: To transfer the warranty from the original purchaser to any subsequent purchaser, it is imperative that the machine be inspected and registered for warranty by an authorized Yamaha motorcycle dealer. In order for this warranty to remain in effect, this inspection and registration must take place within ten (10) days after transfer. An inspection and registration fee will be charged for this service.

EMISSIONS CONTROL SYSTEM WARRANTY

Yamaha Motor Corporation, U.S.A. also warrants to the ultimate purchaser and each subsequent purchaser of each Yamaha motorcycle covered by this warranty with a displacement of 50cc or greater, that the vehicle is designed, built, and equipped so as to conform at the time of sale with all U.S. emissions standards applicable at the time of manufacture and that it is free from defects in materials and workmanship which would cause it not to meet these standards within the periods listed immediately below. Failure other than those resulting from defects in material or workmanship which arise solely as a result of owner abuse and / or lack of proper maintenance are not covered by this warranty.

ENGINE DISPLACEMENT	PERIOD
50cc to 169cc	12,000 km (7,465 miles) or five years, whichever occurs first
170cc to 279cc	18,000 km (11,185 miles) or five years, whichever occurs first
280cc or over	30,000 km (18,641 miles) or five years, whichever occurs first

YAMAHA MOTOR CORPORATION, U.S.A. MAKES NO OTHER WARRANTY OF ANY KIND, EXPRESSED OR IMPLIED. ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE WHICH EXCEED THE OBLIGATIONS AND TIME LIMITS STATED IN THIS WARRANTY ARE HEREBY DISCLAIMED BY YAMAHA MOTOR CORPORATION, U.S.A. AND EXCLUDED FROM THIS WARRANTY.

SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU. ALSO EXCLUDED FROM THIS WARRANTY ARE ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES INCLUDING LOSS OF USE. SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE EXCLUSION MAY NOT APPLY TO YOU.

THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, AND YOU MAY ALSO HAVE OTHER RIGHTS WHICH VARY FROM STATE TO STATE.

YAMAHA MOTOR CORPORATION, U.S.A.
P.O. Box 6555
Cypress, California 90630

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WARRANTY QUESTIONS AND ANSWERS

Q. What costs are my responsibility during the warranty period?
A. The customer's responsibility includes all costs of normal maintenance services, non-warranty repairs, accident and collision damages, and oil, oil filters, air filters, spark plugs, and brake shoes.

Q. What are some examples of "abnormal" strain, neglect, or abuse?
A. These terms are general and overlap each other in areas. Specific examples include: Running the machine out of oil, sustained high-rpm, full-throttle, operating the machine with a broken or damaged part which causes another part to fail, damage or failure due to improper or careless transportation and or tie down. If you have any specific questions on operation or maintenance, please contact your dealer for advice.

Q. Does the warranty cover incidental costs such as towing or transportation due to a failure?
A. No. The warranty is limited to repair of the machine itself.

Q. May I perform any or all of the recommended maintenance shown in the Owner's Manual instead of having the dealer do them?
A. Yes, if you are a qualified mechanic and follow the procedures specified in the Owner's and Service Manual. We do recommend, however, that items requiring special tools or equipment be done by Yamaha Motorcycle dealer.

Q. Will the warranty be void or cancelled if I do not operate or maintain my new motorcycle exactly as specified in the Owner's Manual?
A. No. The warranty on a new motorcycle cannot be "voided" or "cancelled." **However, if a particular failure is caused by operation or maintenance other than as shown in the Owner's Manual, that failure may not be covered under warranty.**

Q. What responsibility does my dealer have under this warranty?
A. Each Yamaha Motorcycle dealer is expected to:
1. Completely set up every new machine before sale.
2. Explain the operation, maintenance, and warranty requirements to your satisfaction at the time of sale, and upon your request at any later date.
3. Each Yamaha Motorcycle dealer is held responsible for his setup, service and warranty repair work.

Q. Is the warranty transferable to second owners?
A. Yes. The remainder of the existing warranty can be transferred upon request. The unit has to be inspected and re-registered by an authorized Yamaha Motorcycle dealer for the policy to remain effective.

CUSTOMER SERVICE

If your machine requires warranty service, you must take it to any authorized Yamaha Motorcycle dealer within the continental United States. Be sure to bring your warranty registration card or other valid proof of the original date of purchase. If a question or problem arises regarding warranty, first contact the owner of the dealership. Since all warranty matters are handled at the dealer level, this person is in the best position to help you. If you are still not satisfied and require additional assistance, please write:

YAMAHA MOTOR CORPORATION U.S.A.
CUSTOMER RELATIONS DEPARTMENT
P.O. Box 6555
Cypress, California 90630

When contacting Yamaha Motor Corporation, U.S.A. don't forget to include any important information such as names, addresses, model, V.I.N. (frame number), dates, and receipts.

CHANGE OF ADDRESS

The federal government requires each manufacturer of a motor vehicle to maintain a complete, up-to-date list of all first purchasers against the possibility of a safety-related defect and recall. This list is compiled from the purchase registrations sent to Yamaha Motor Corporation, U.S.A. by the selling dealer at the time of your purchase.

If you should move after you have purchased your new motorcycle, please advise us of your new address by sending a postcard listing your motorcycle model name, V.I.N. (frame number), dealer number (or dealer's name) as it is shown on your warranty card, your name and new mailing address. Mail to:

YAMAHA MOTOR CORPORATION, U.S.A.
P.O. Box 6555
Cypress, California 90630
Attention: Warranty Department

This will ensure that Yamaha Motor Corporation, U.S.A. has an up-to-date registration record in accordance with federal law.

YAMAHA EXTENDED SERVICE (Y.E.S.)

Keep your Yamaha protected even after your warranty expires with genuine Yamaha Extended Service (Y.E.S.).

- Y.E.S. is designed and administered by Yamaha Motor Corporation to provide maximum owner satisfaction. You get uninterrupted factory-backed coverage for extra peace of mind.
- Y.E.S. is flexible. You choose the plan that's right for you: 12 months, 24 months, or 36 months beyond your warranty period.
- Y.E.S. is designed and administered by the same Yamaha people who handle your warranty – and it shows in the comprehensive coverage benefits. There are no mileage limitations. Coverage isn't limited to "moving parts" or the "drive train" like many other plans. And Y.E.S. covers manufacturing defects just like the warranty. See the sample contract at your Yamaha dealer to see how comforting uninterrupted factory-backed protection can be.
- You don't have to pay anything for covered repairs. There's no deductible to pay, and repairs aren't "pro-rated." You don't have any "out-of-pocket" expenses for covered repairs.
- In addition, Travel and Recreation Interruption Protection (TRIP) is included at no extra cost. TRIP gives you up to $150 reimbursement per occurrence for any reasonable expenses you incur because your Yamaha needs covered service: replacement vehicle rental, emergency towing, phone calls, even food and lodging when you are away from home. This superb coverage goes into effect when you purchase Y.E.S., so it applies to any warranty repairs as well as covered repairs during your entire Y.E.S. plan period.
- Y.E.S. coverage is honored at any authorized Yamaha dealer nationwide.
- Y.E.S. coverage is transferable to a new owner if you sell or trade-in. That can make your Yamaha much more valuable!

This excellent Y.E.S. plan coverage is only available to Yamaha owners like you, and only while your Yamaha is still within the Yamaha Limited Warranty period. So visit your authorized Yamaha dealer to get all the facts. He can show you how easy it is to protect your investment with Yamaha Extended Service.

We urge you to act now. You'll get the excellent benefits of TRIP coverage right away, and you'll rest easy knowing you'll have strong factory-backed protection even after your Yamaha Limited Warranty expires. You can also save money: Y.E.S. costs less within the first 90 days after you buy your Yamaha. See your dealer today!

A special note:
If visiting your dealer isn't convenient, contact Yamaha with your Primary ID number (your frame number). We'll be happy to help you get the Y.E.S. coverage you need.

Yamaha Service Marketing
P.O. Box 6555
Cypress, CA 90630

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Use Genuine YAMAHA Parts and Accessories.
See your Authorized YAMAHA Dealer for a Genuine YAMAHA Service Manual.

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